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Fig.1

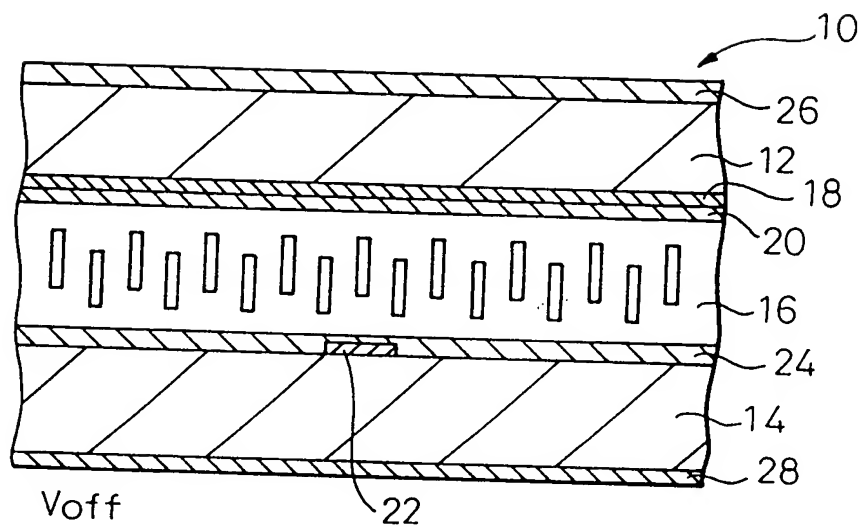
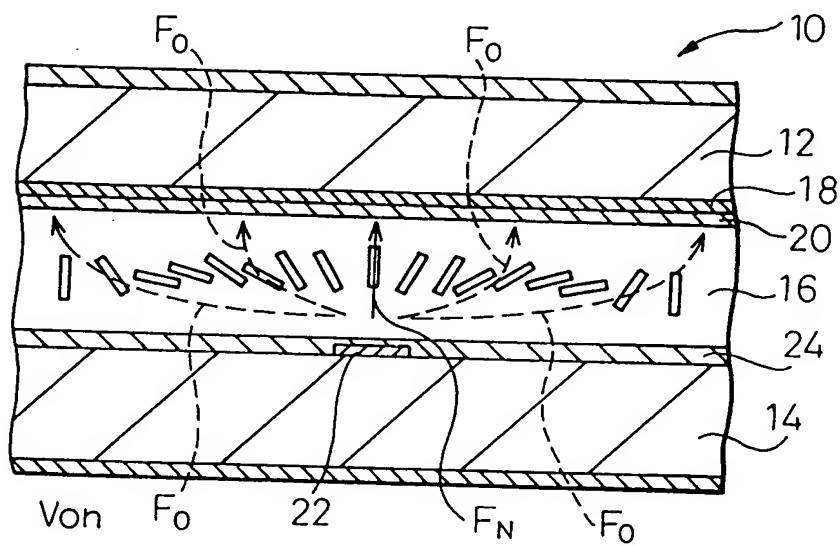


Fig.2



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Fig.3

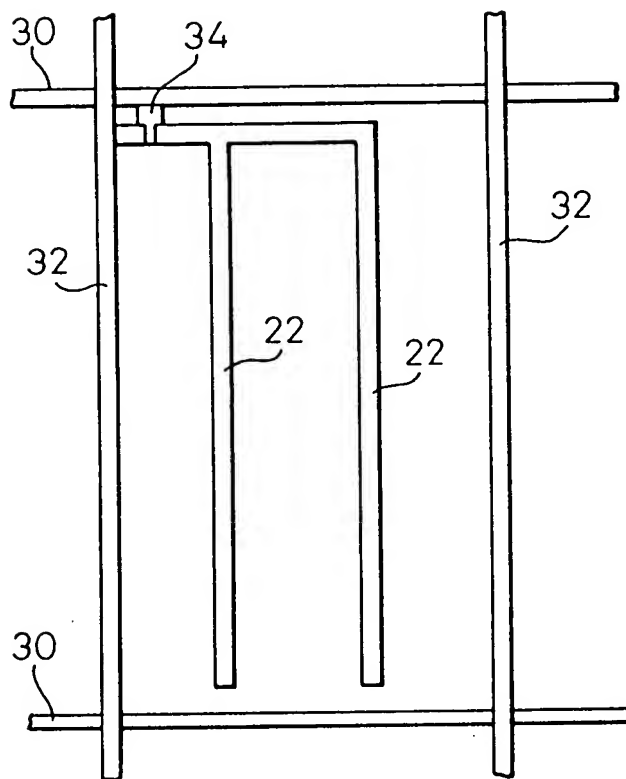
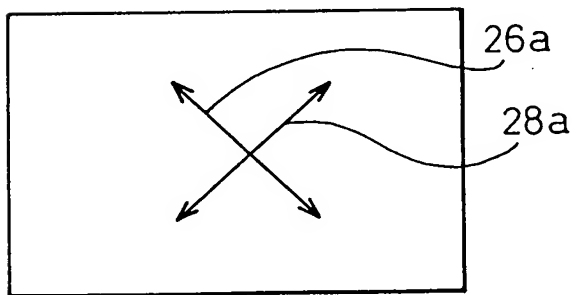


Fig.4



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Fig.5A

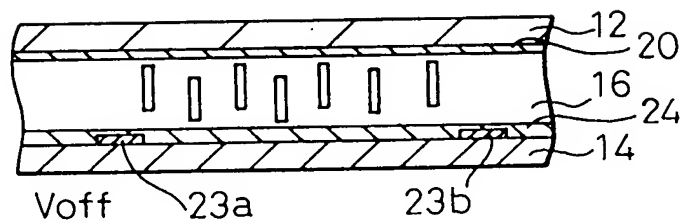


Fig.5B

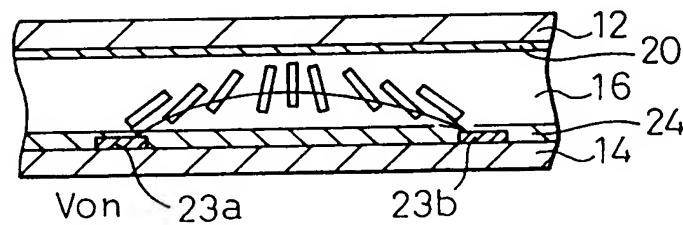
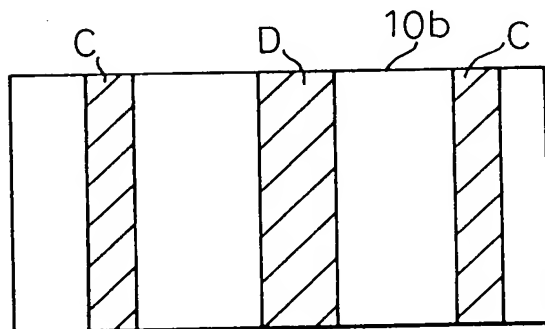


Fig.5C



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Fig.6

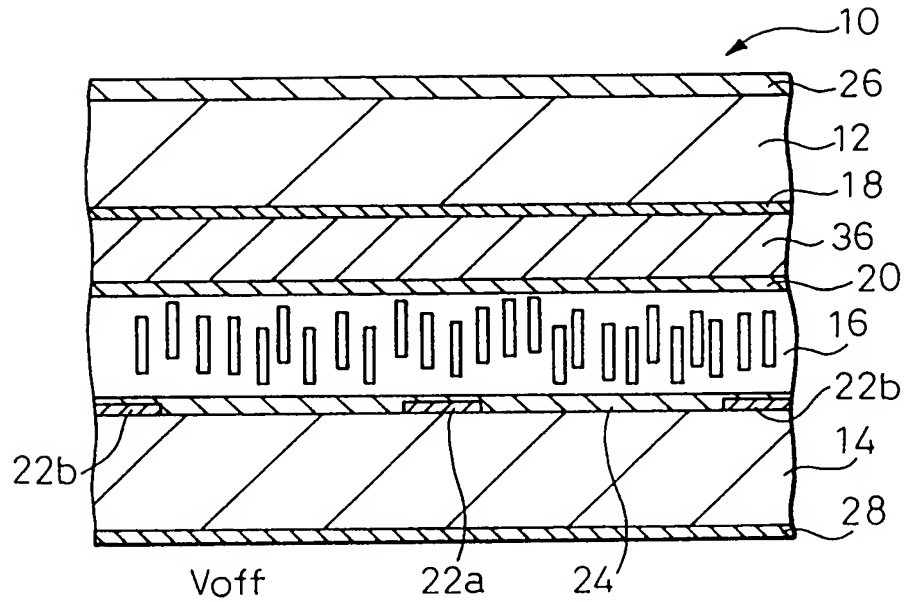
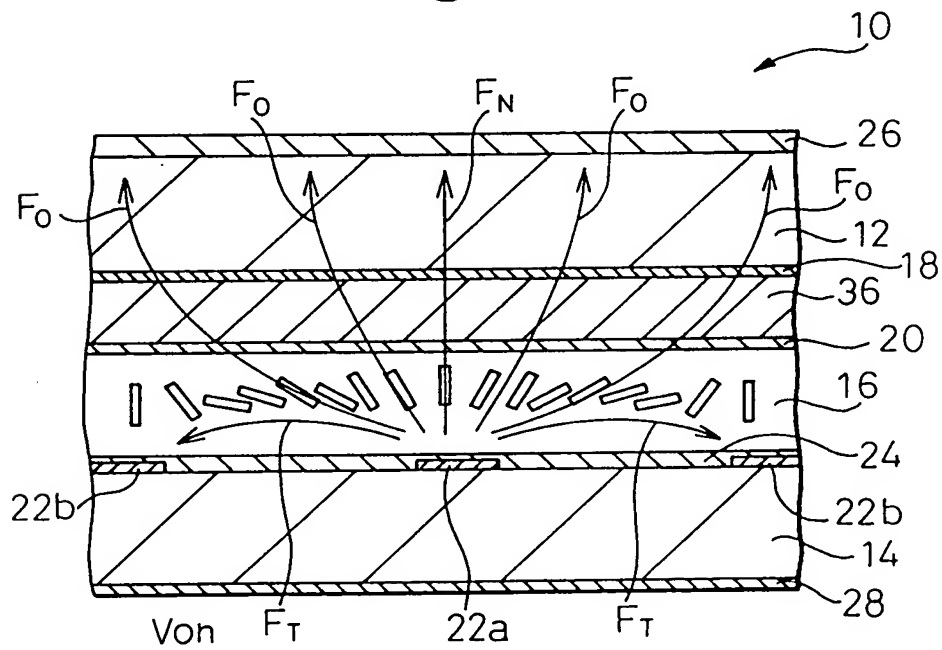


Fig.7



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Fig.8

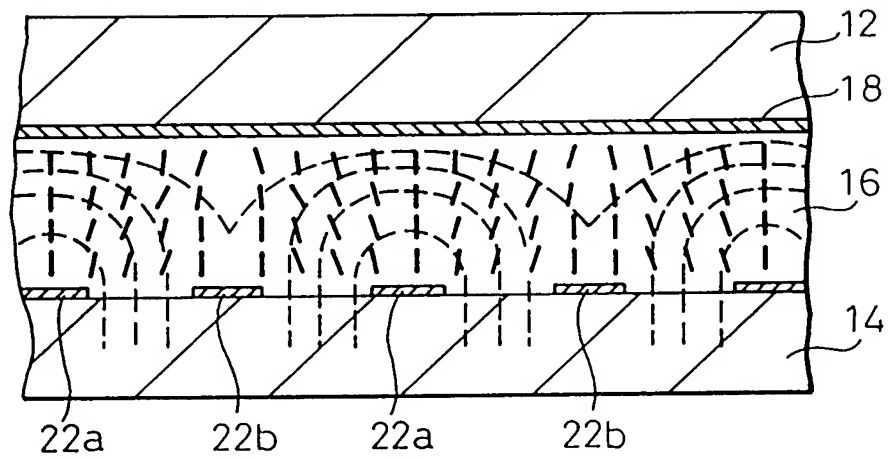
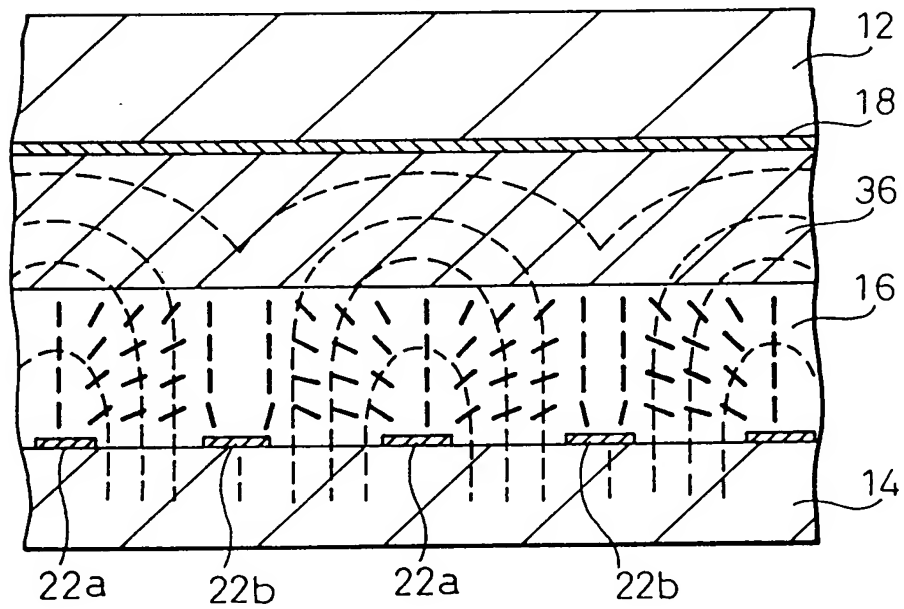


Fig.9



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Fig.10A

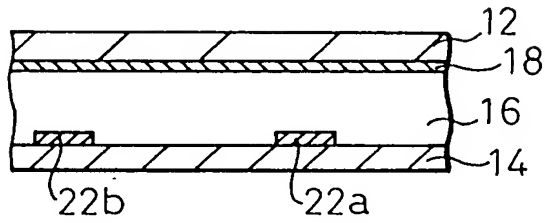


Fig.10B

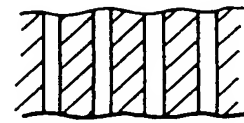


Fig.11A

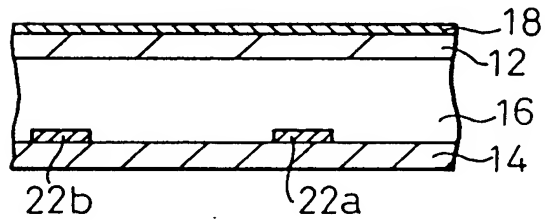


Fig.11B

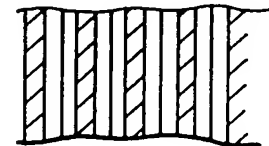


Fig.12A

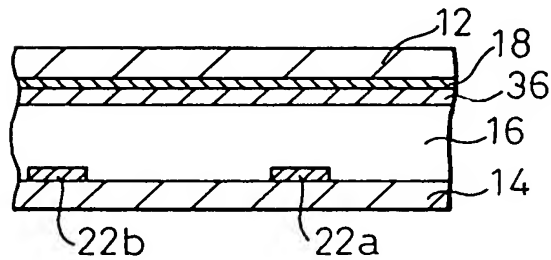
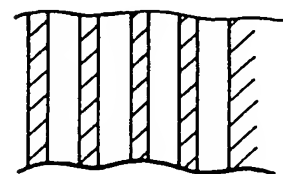


Fig.12B



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Fig.13

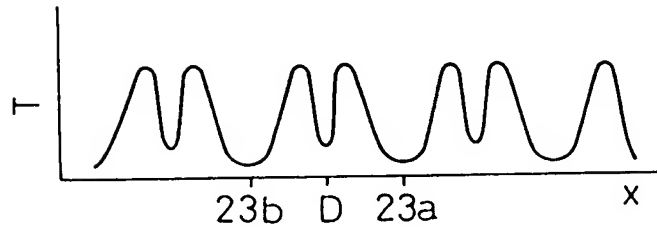


Fig.14



Fig.15

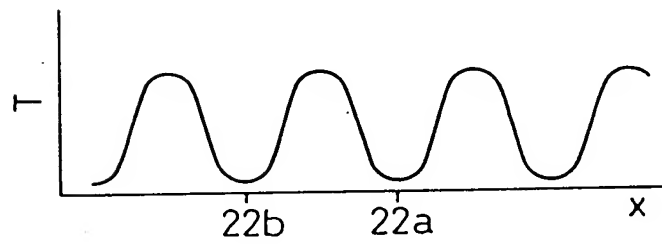
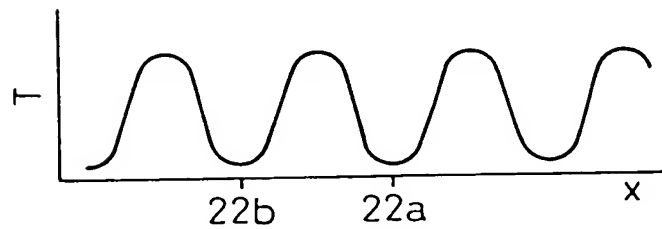
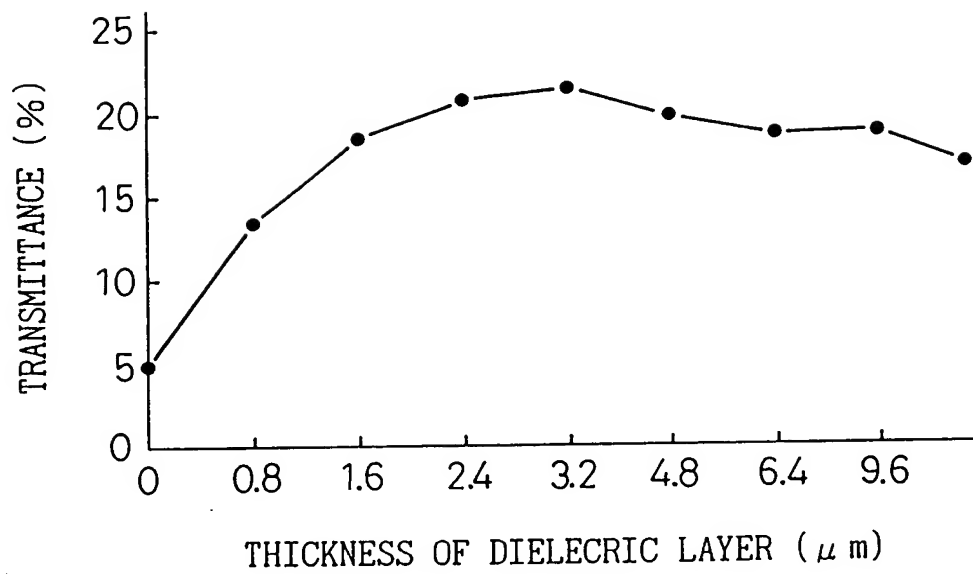


Fig.16



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Fig.17



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Fig.18

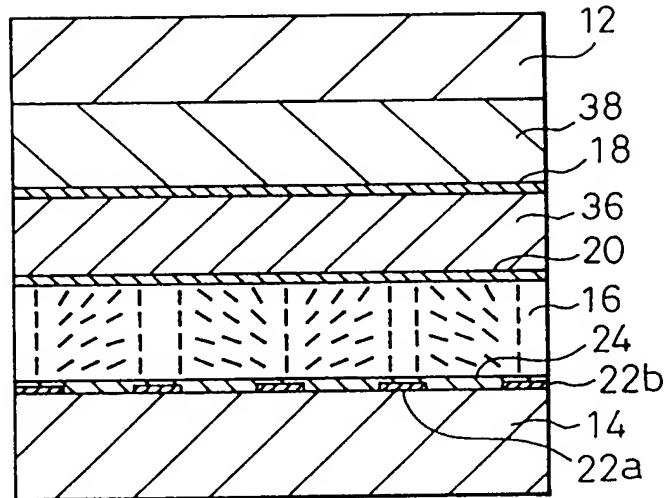
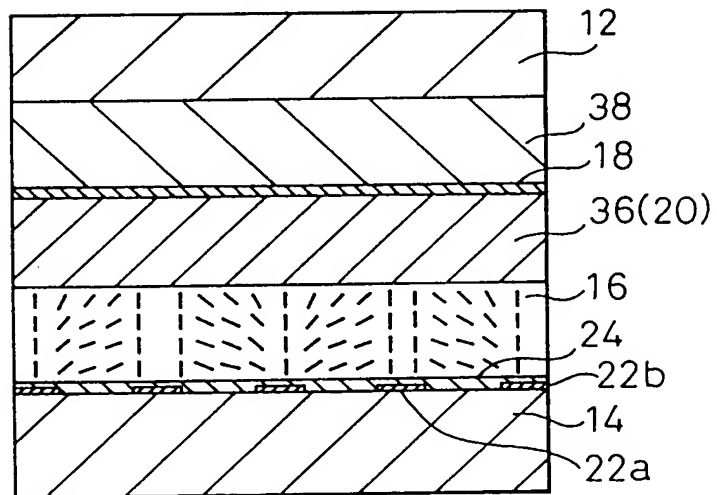


Fig.19



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Fig.20

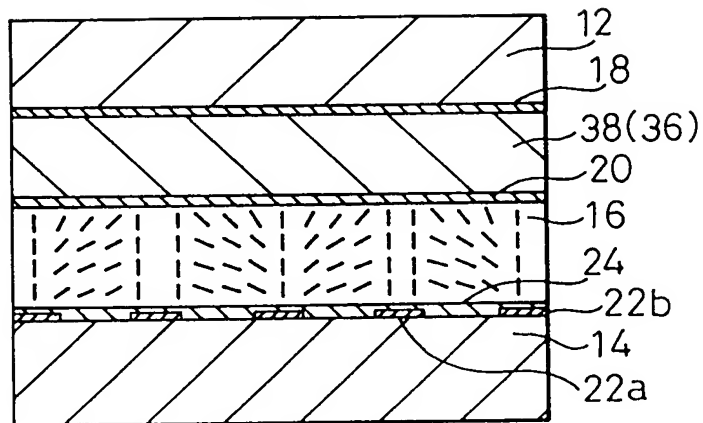
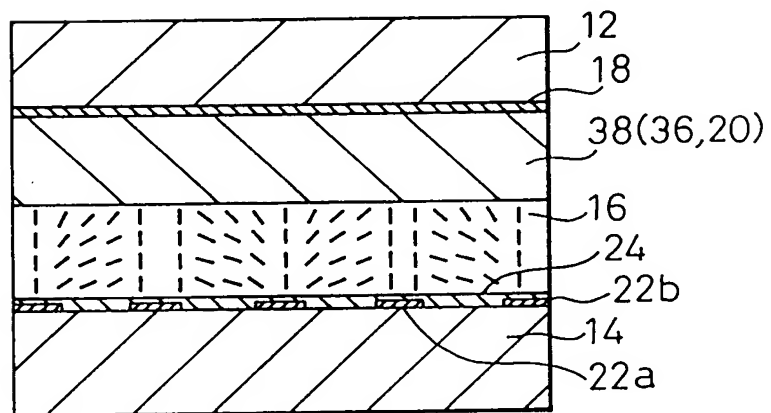
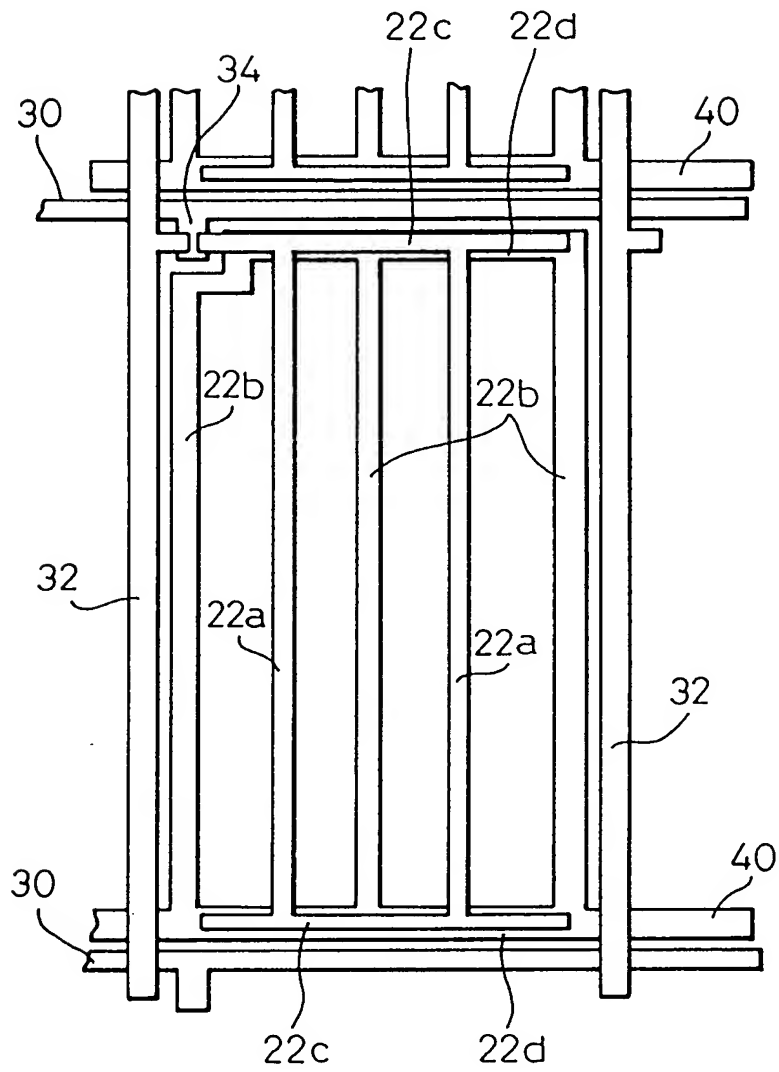


Fig.21



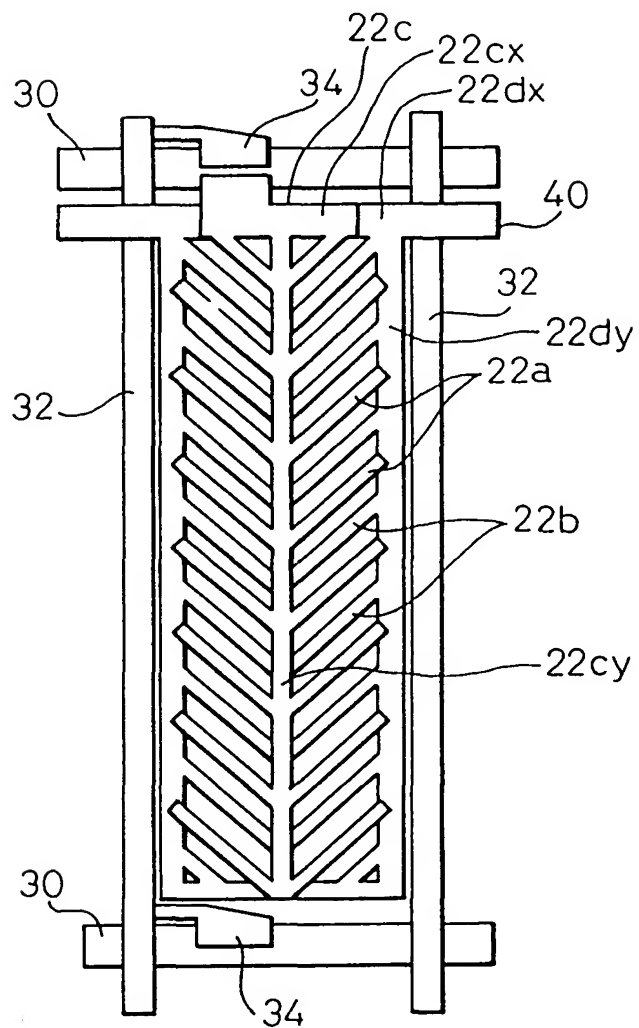
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Fig.22



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Fig.23



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Fig. 24

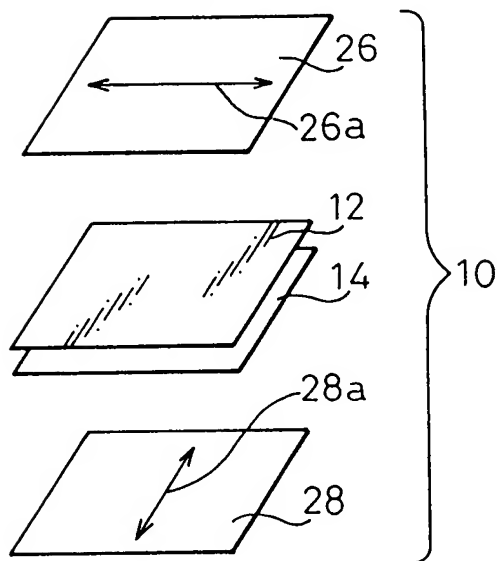
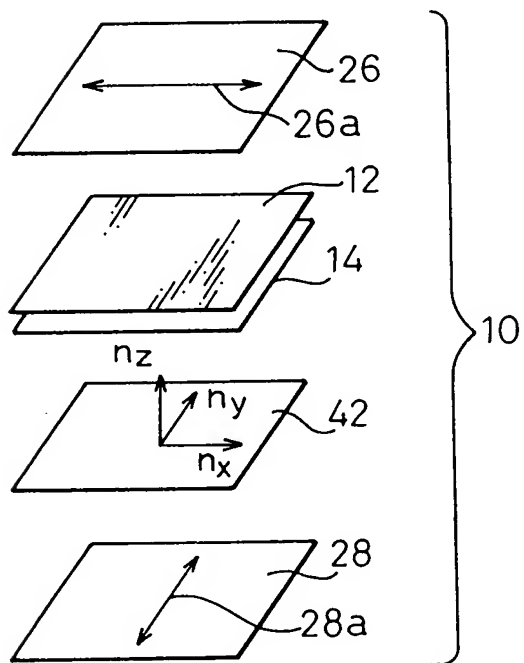


Fig. 25



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Fig.26

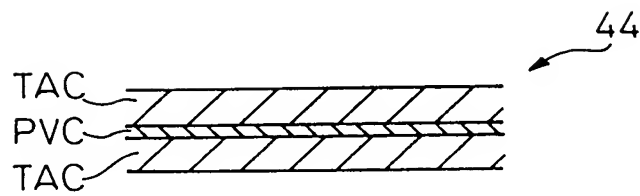
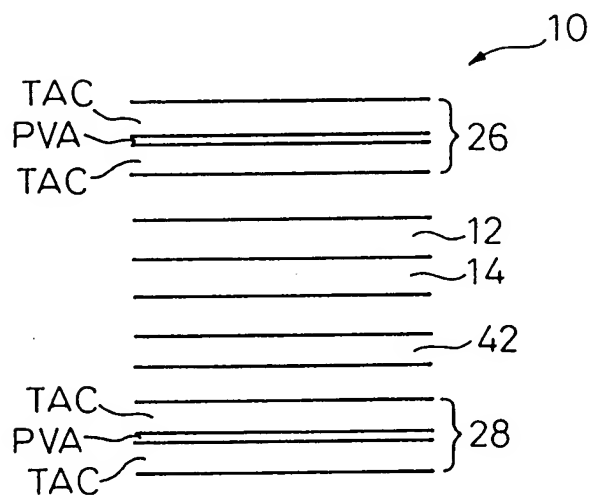


Fig.27



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Fig.28

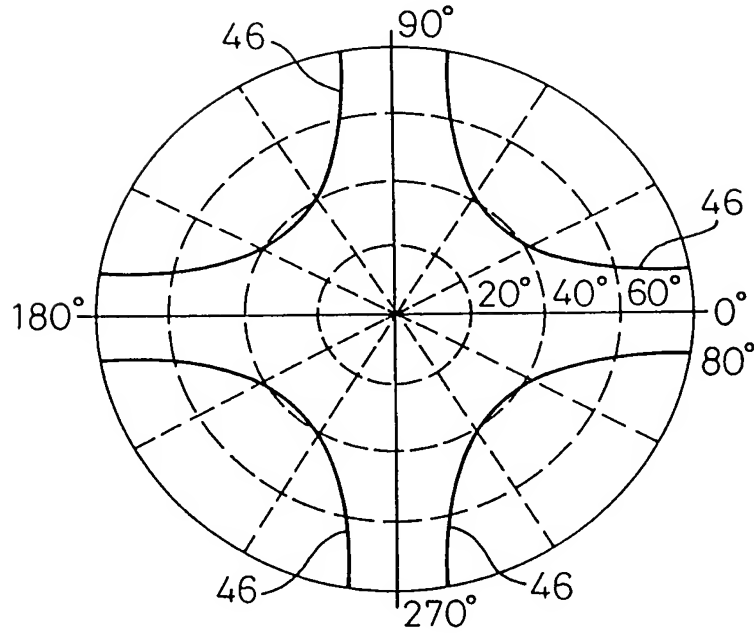
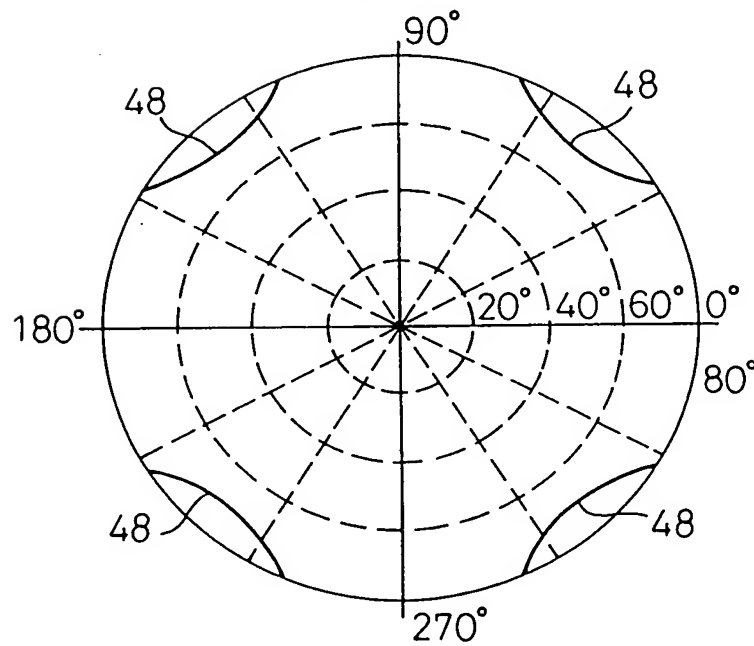


Fig.29



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Fig.30

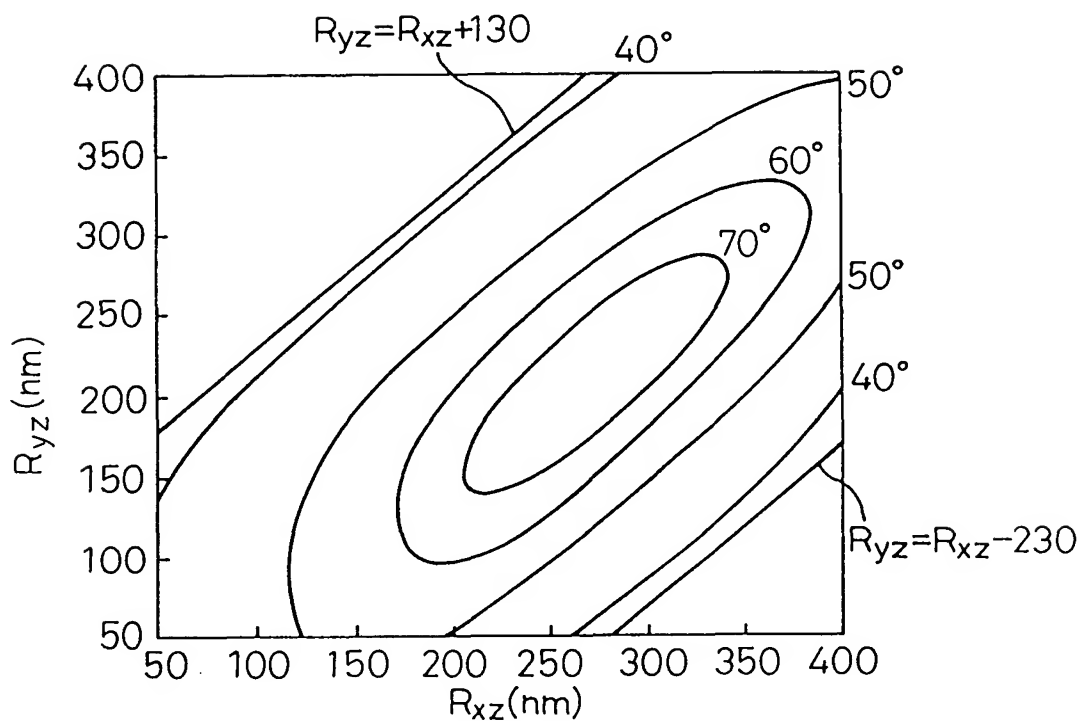
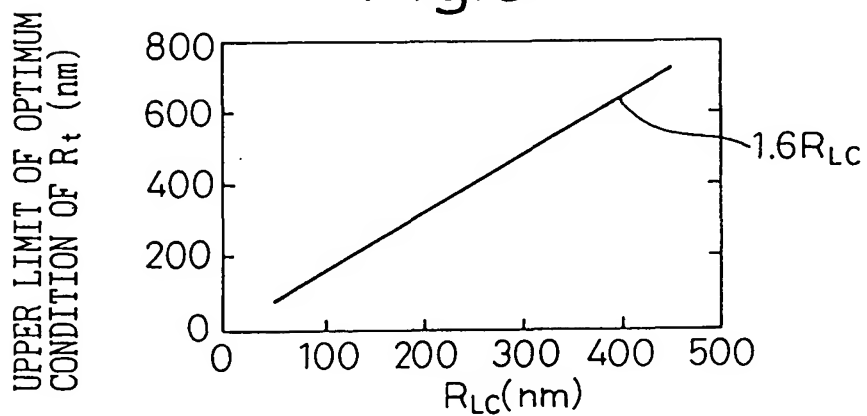


Fig.31



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Fig.32

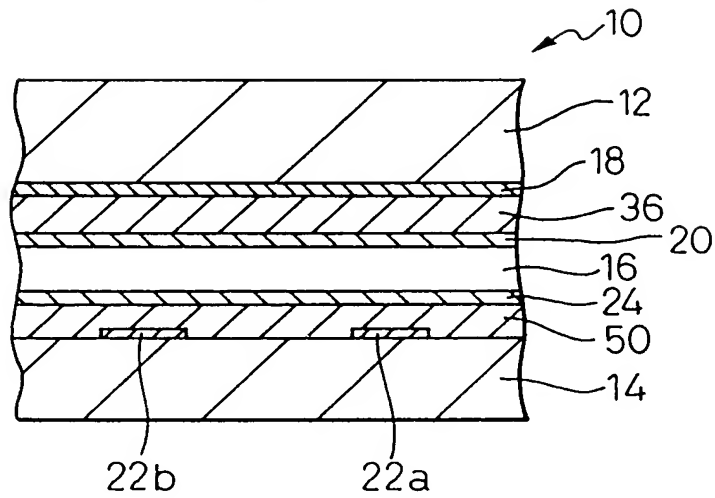
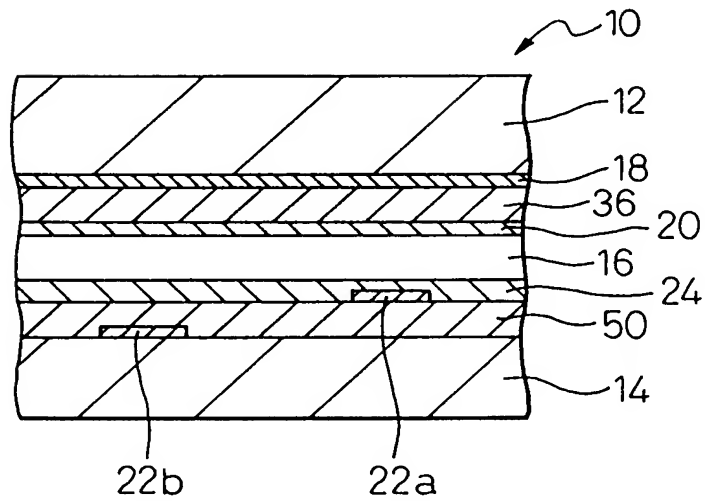


Fig.33



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Fig.34

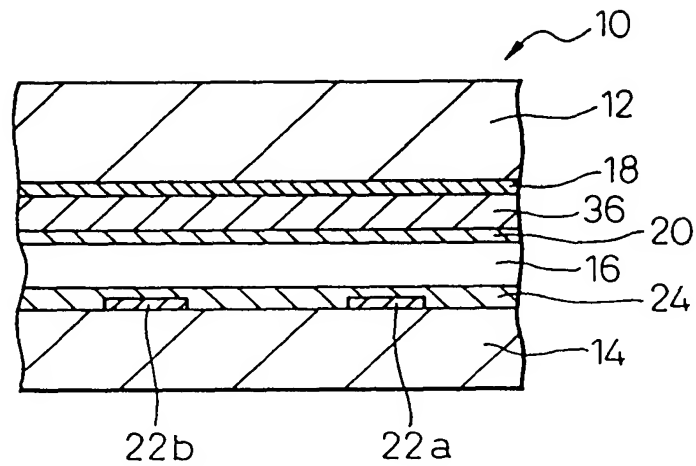
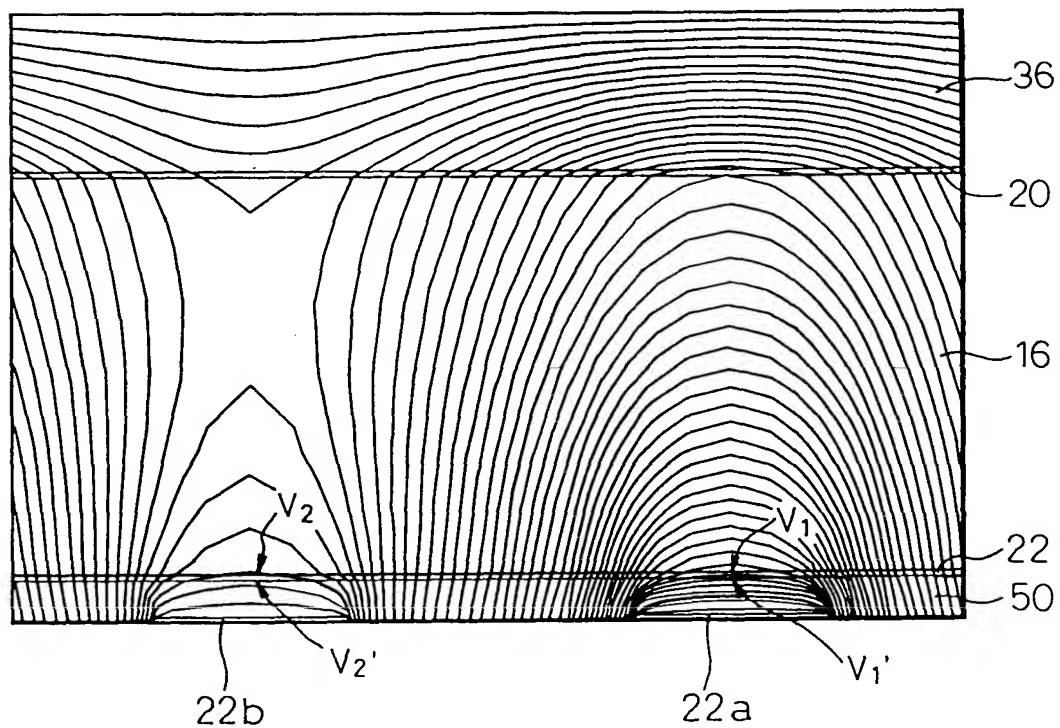


Fig.35



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Fig.36A

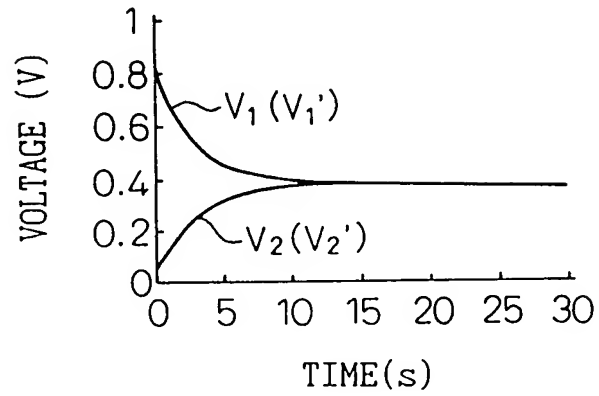


Fig.36B

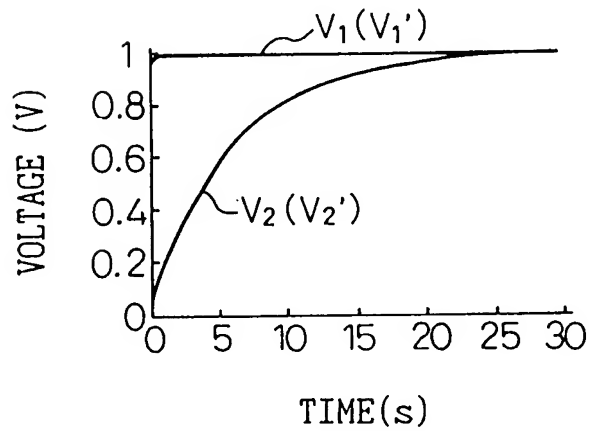
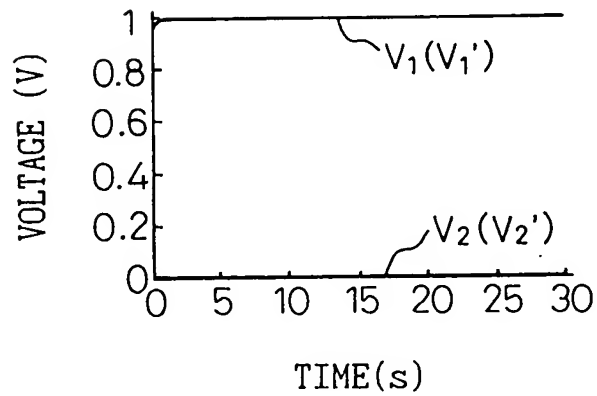


Fig.36C



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Fig.37A

$$VR_{LC}=10^8 \Omega m$$

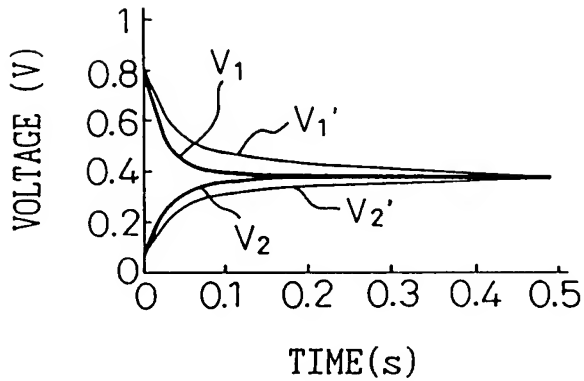


Fig.37D

$$VR_{LC}=10^{11} \Omega m$$

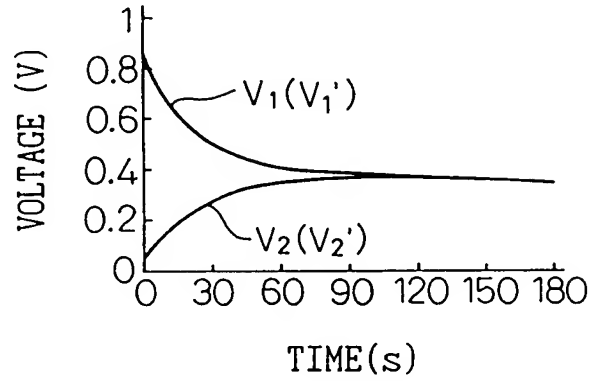


Fig.37B

$$VR_{LC}=10^9 \Omega m$$

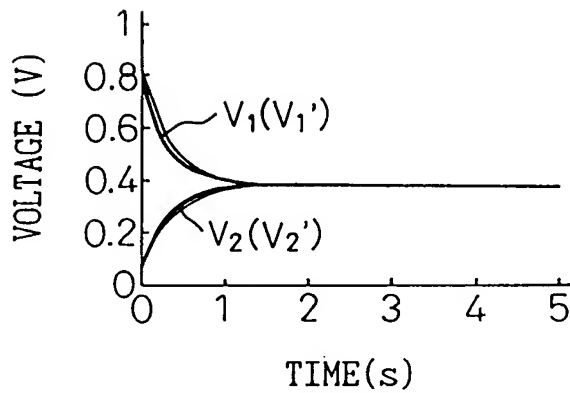


Fig.37E

$$VR_{LC}=10^{12} \Omega m$$

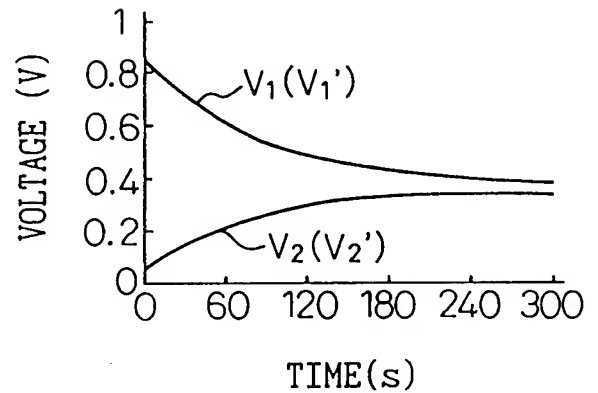


Fig.37C

$$VR_{LC}=10^{10} \Omega m$$

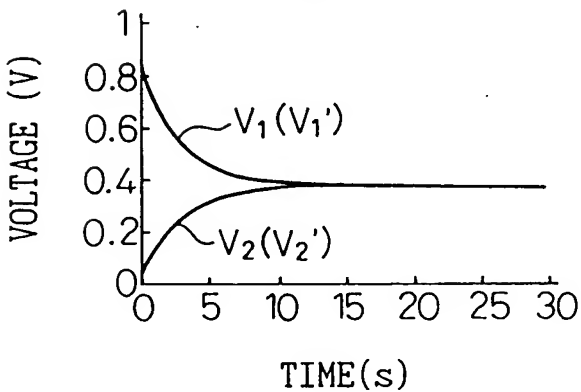
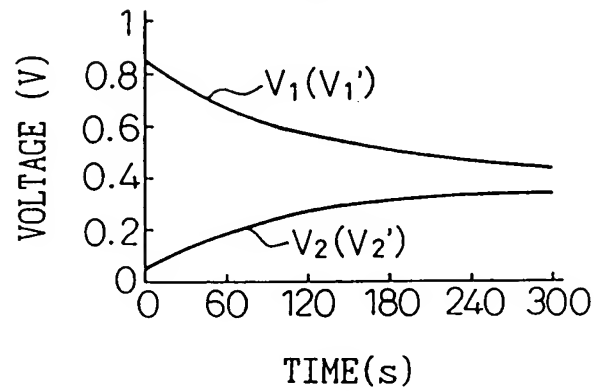


Fig.37F

$$VR_{LC}=10^{13} \Omega m$$



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Fig.38A

$$VR_{LC} = 10^8 \Omega m$$

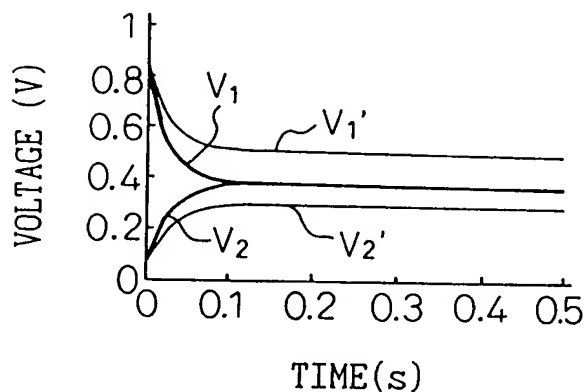


Fig.38D

$$VR_{LC} = 10^{11} \Omega m$$

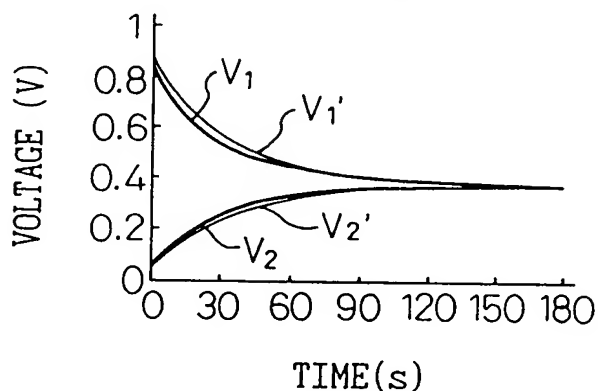


Fig.38B

$$VR_{LC} = 10^9 \Omega m$$

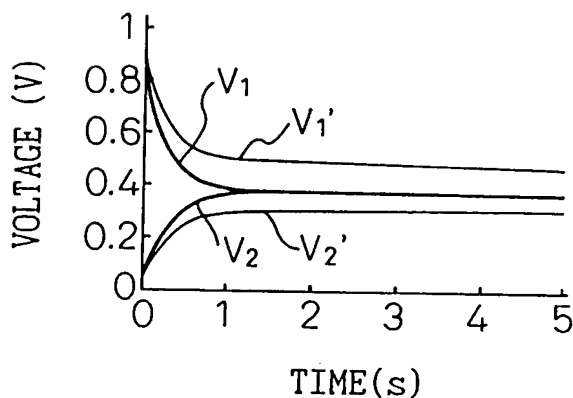


Fig.38E

$$VR_{LC} = 10^{12} \Omega m$$

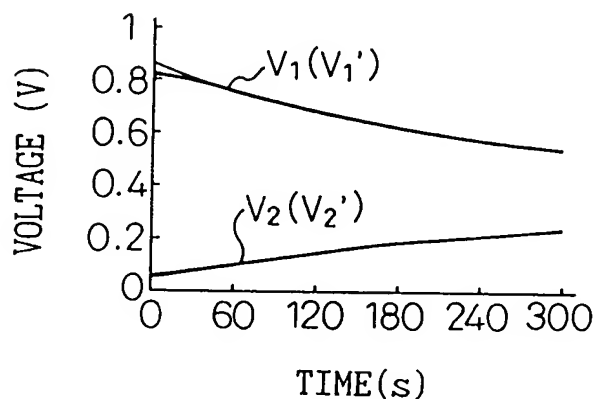


Fig.38C

$$VR_{LC} = 10^{10} \Omega m$$

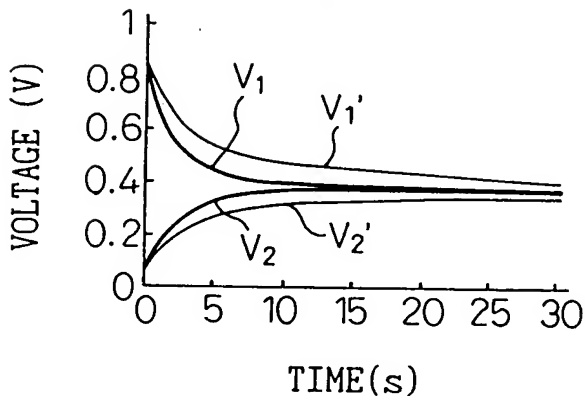
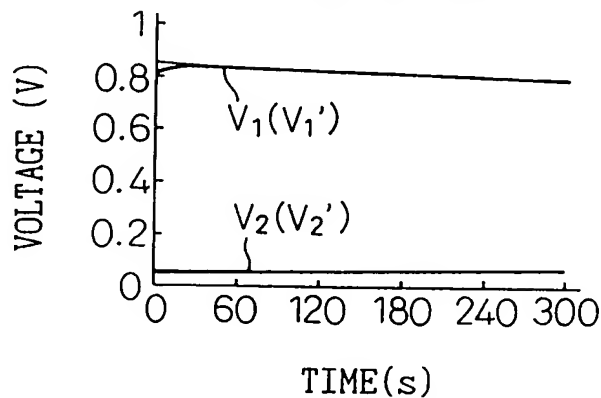


Fig.38F

$$VR_{LC} = 10^{13} \Omega m$$



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Fig.39A

$$VR_{LC}=10^8 \Omega m$$

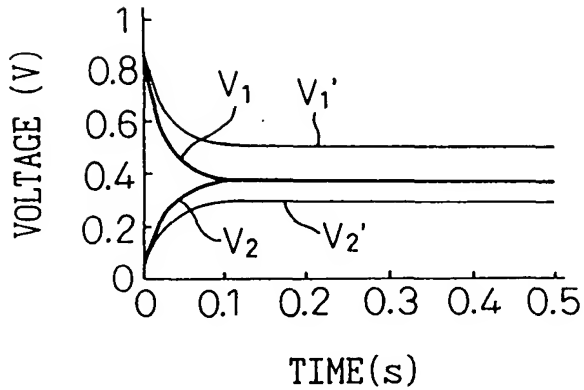


Fig.39D

$$VR_{LC}=10^{11} \Omega m$$

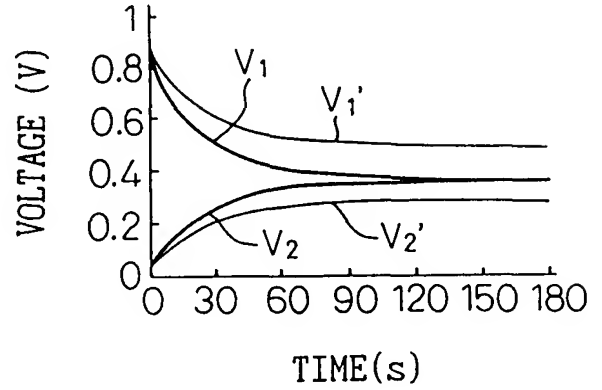


Fig.39B

$$VR_{LC}=10^9 \Omega m$$

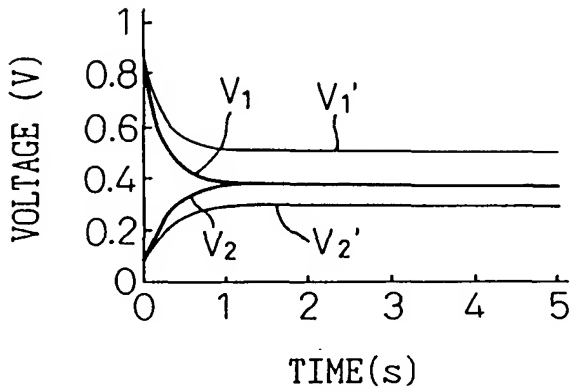


Fig.39E

$$VR_{LC}=10^{12} \Omega m$$

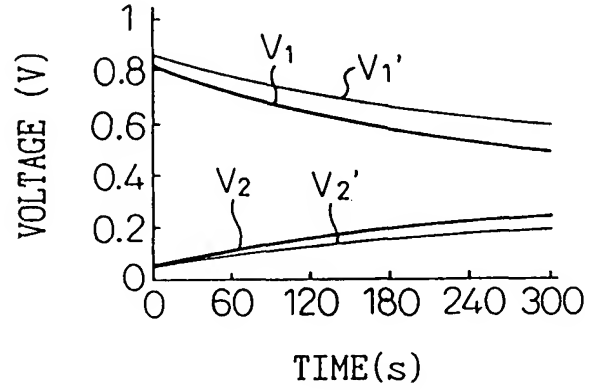


Fig.39C

$$VR_{LC}=10^{10} \Omega m$$

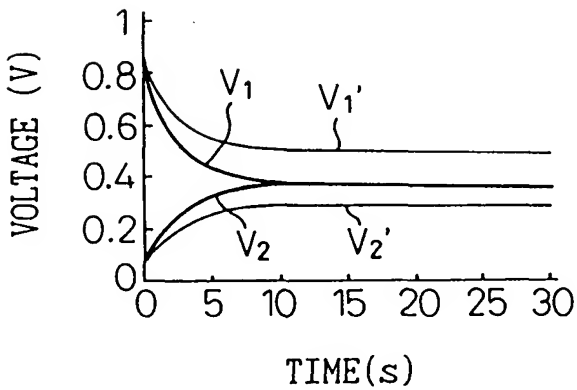
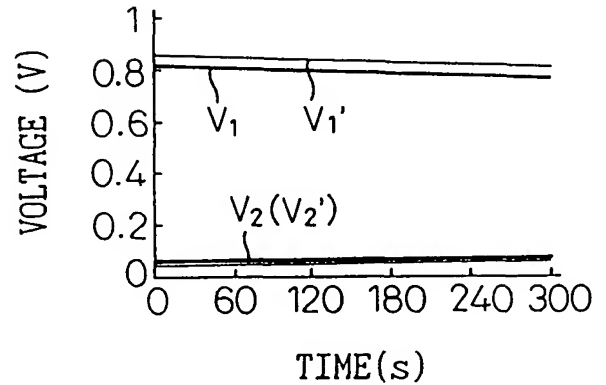


Fig.39F

$$VR_{LC}=10^{13} \Omega m$$



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Fig.40A

$$VR_{IN}=10^{12}\Omega m$$

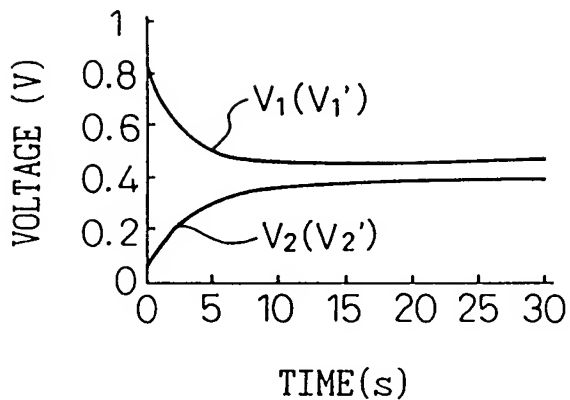


Fig.40C

$$VR_{IN}=10^{14}\Omega m$$

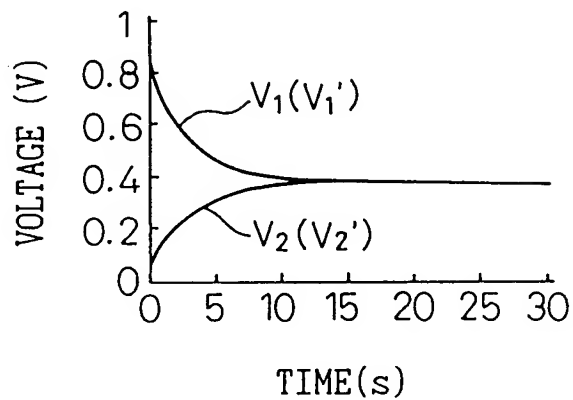


Fig.40B

$$VR_{IN}=10^{13}\Omega m$$

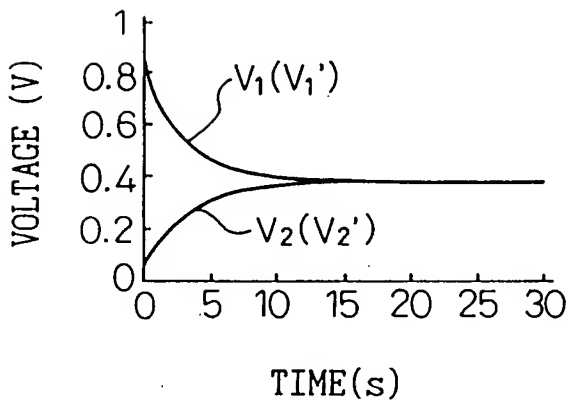
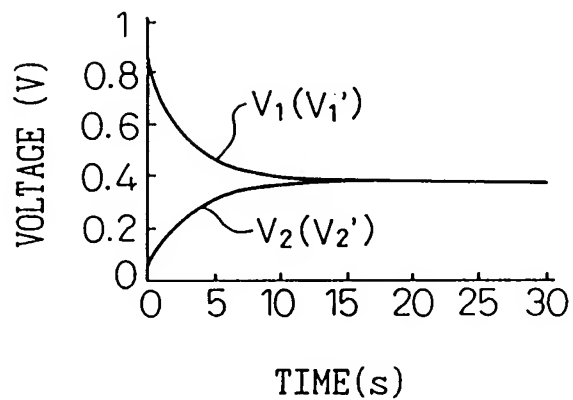


Fig.40D

$$VR_{IN}=10^{16}\Omega m$$



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Fig.41A

$$VR_{IN}=10^{12}\Omega m$$

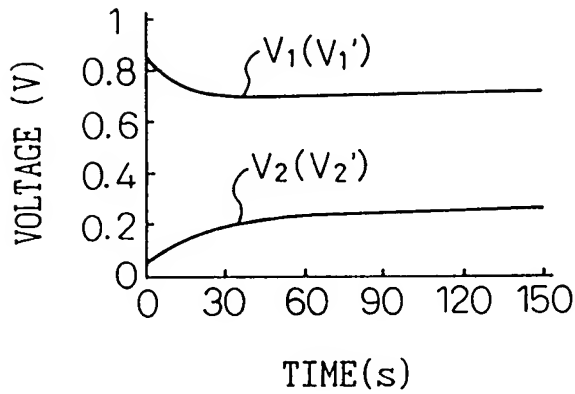


Fig.41C

$$VR_{IN}=10^{14}\Omega m$$

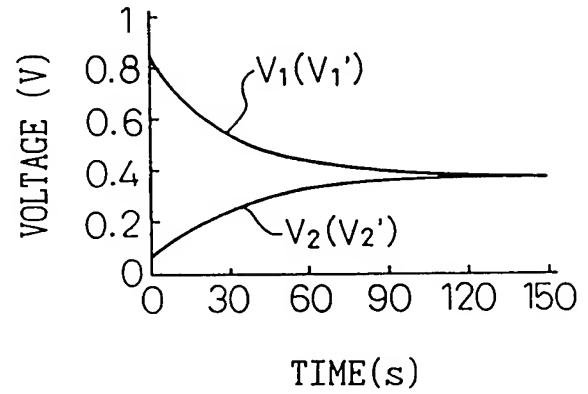


Fig.41B

$$VR_{IN}=10^{13}\Omega m$$

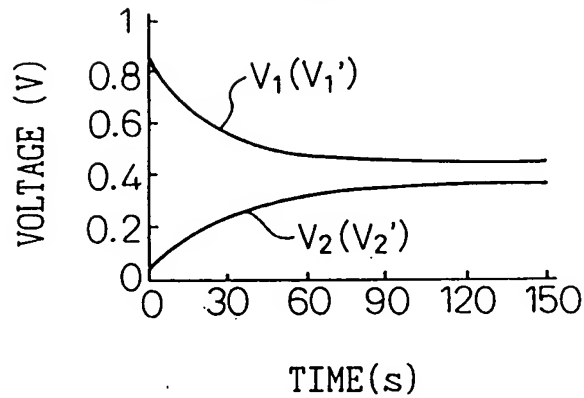
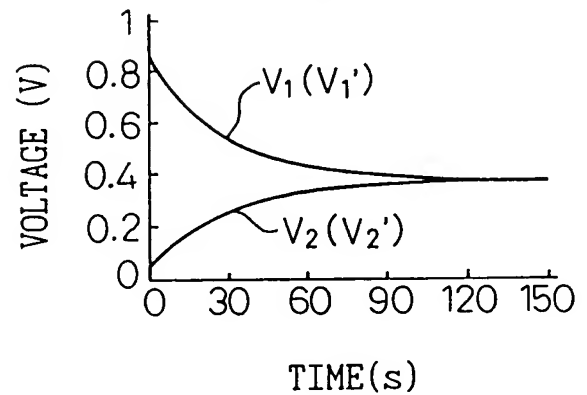


Fig.41D

$$VR_{IN}=10^{16}\Omega m$$



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Fig.42A

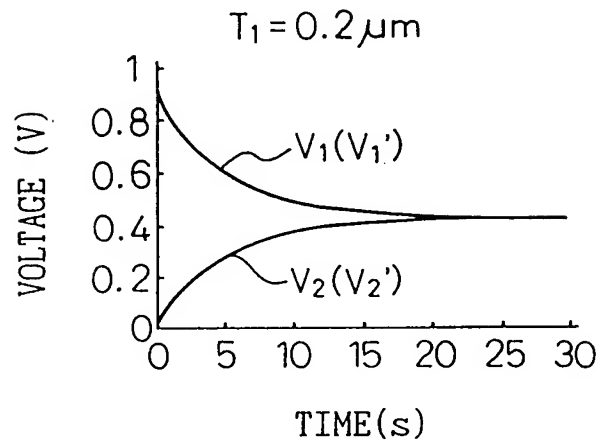


Fig.42B

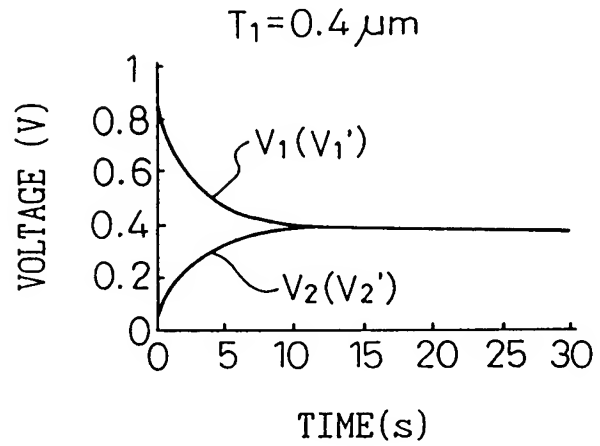
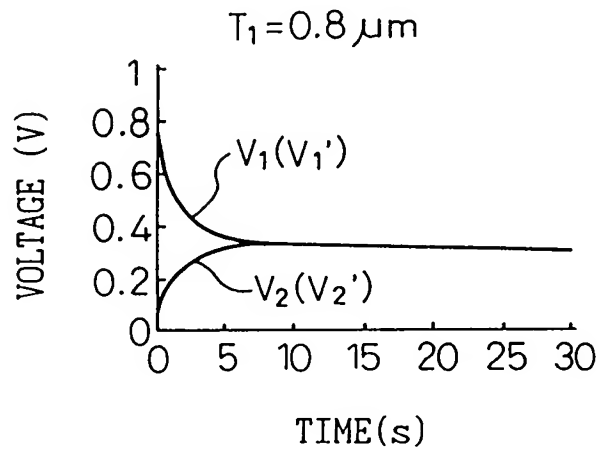


Fig.42C



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Fig.43

$T_2 = 0.4 \mu\text{m}$

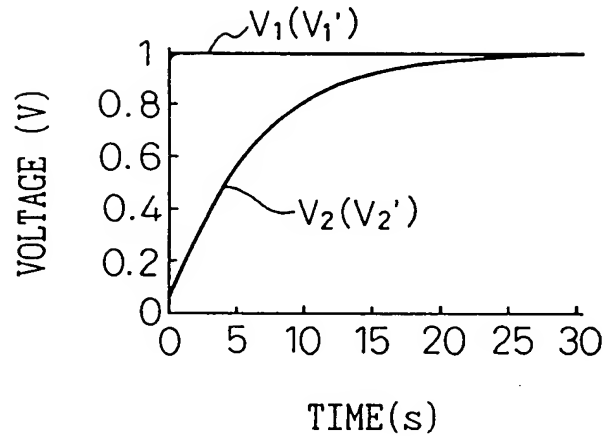
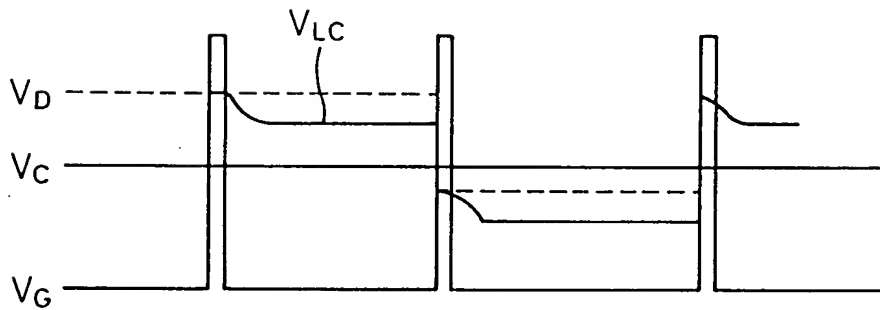
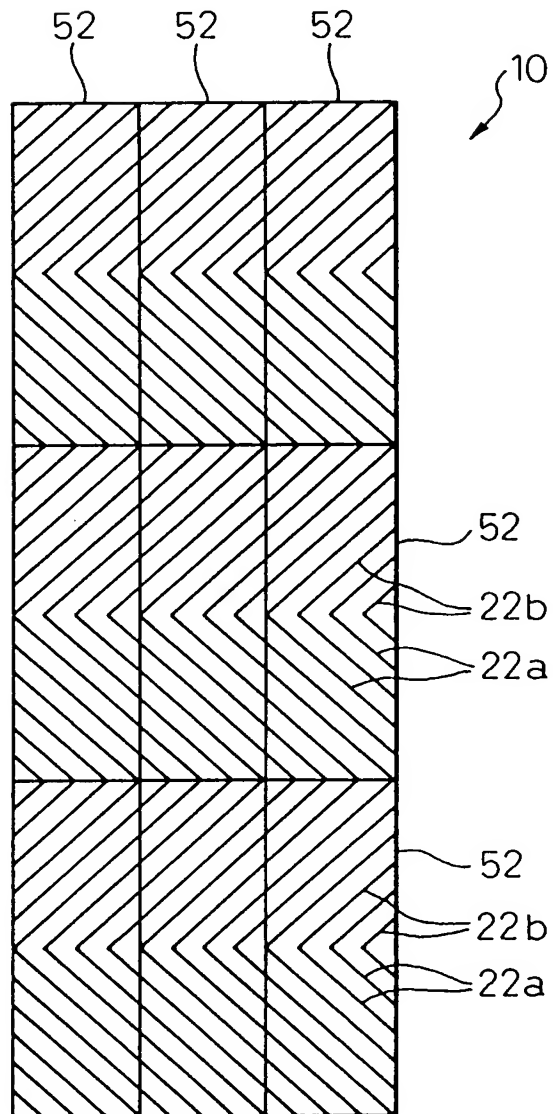


Fig.44



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Fig.45



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Fig.46A

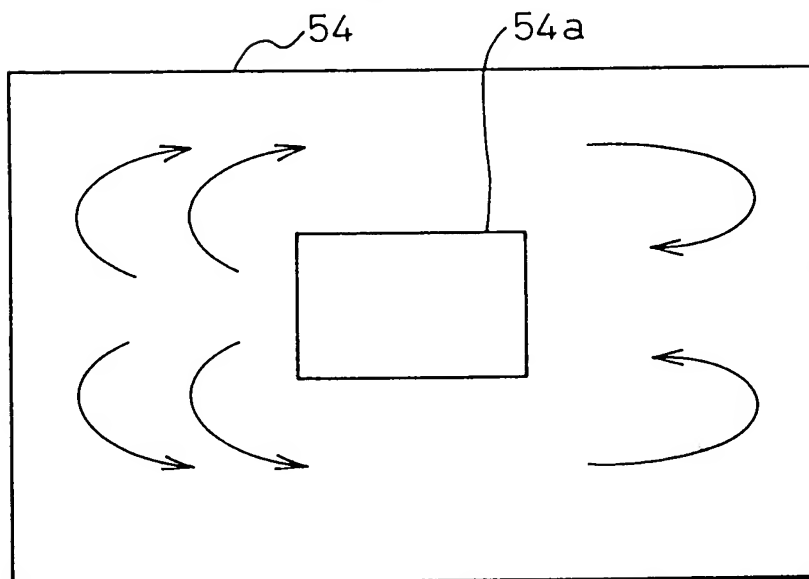
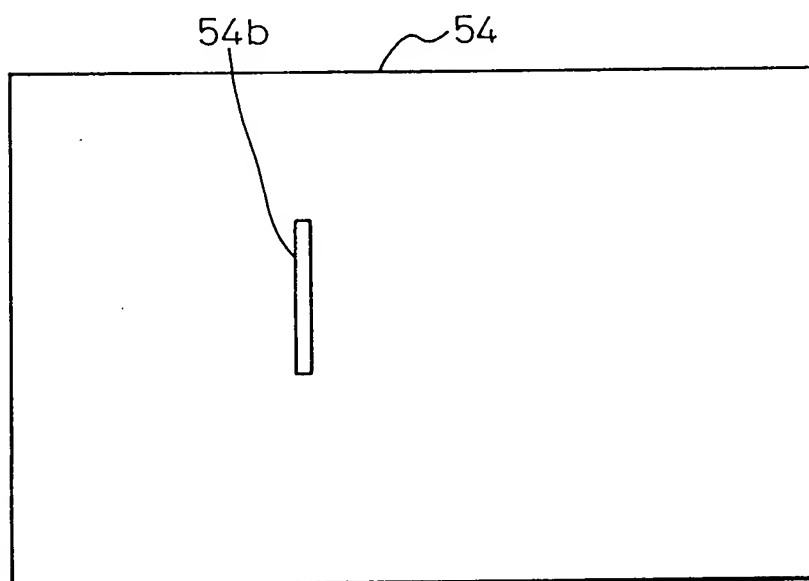
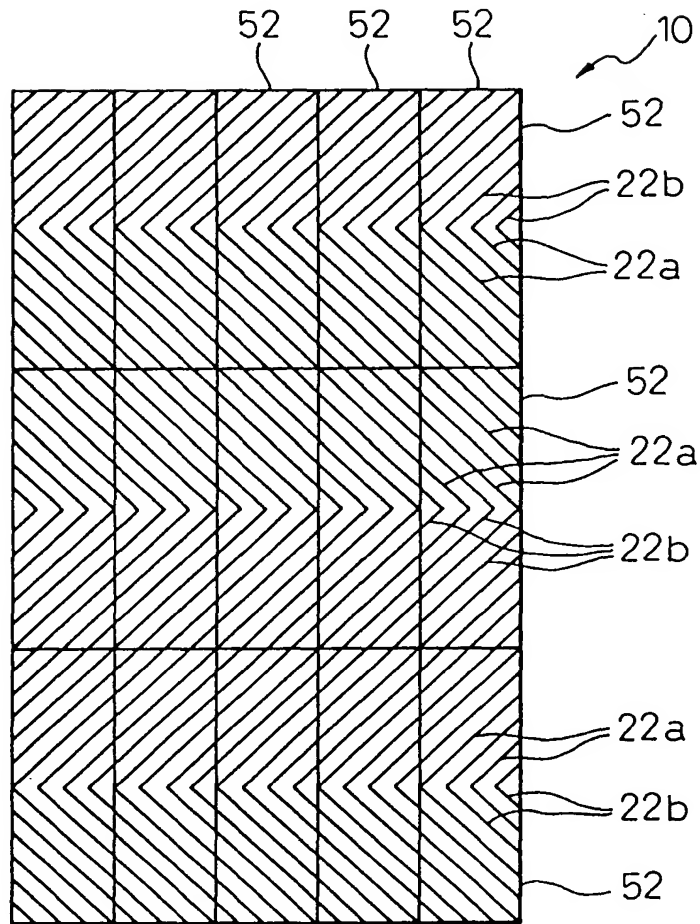


Fig.46B



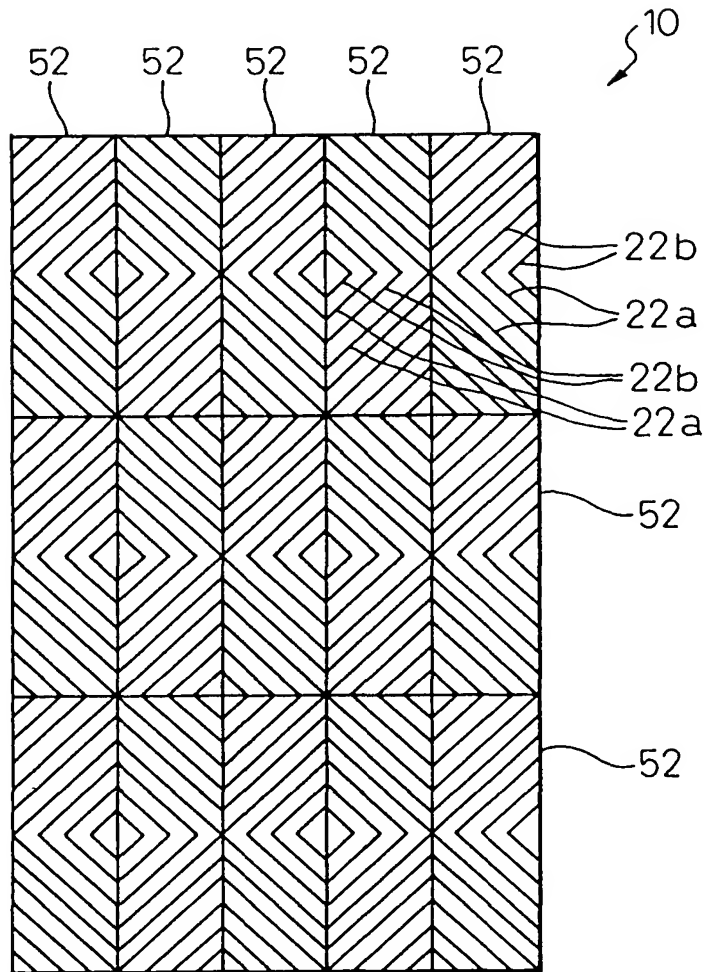
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Fig.47



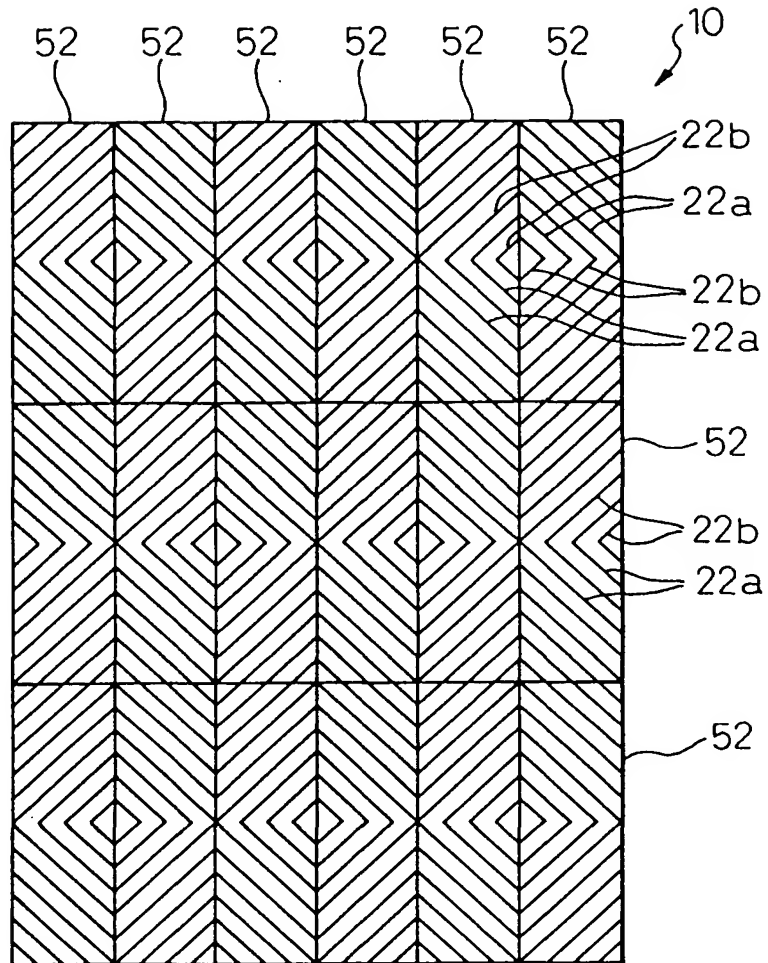
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Fig.48



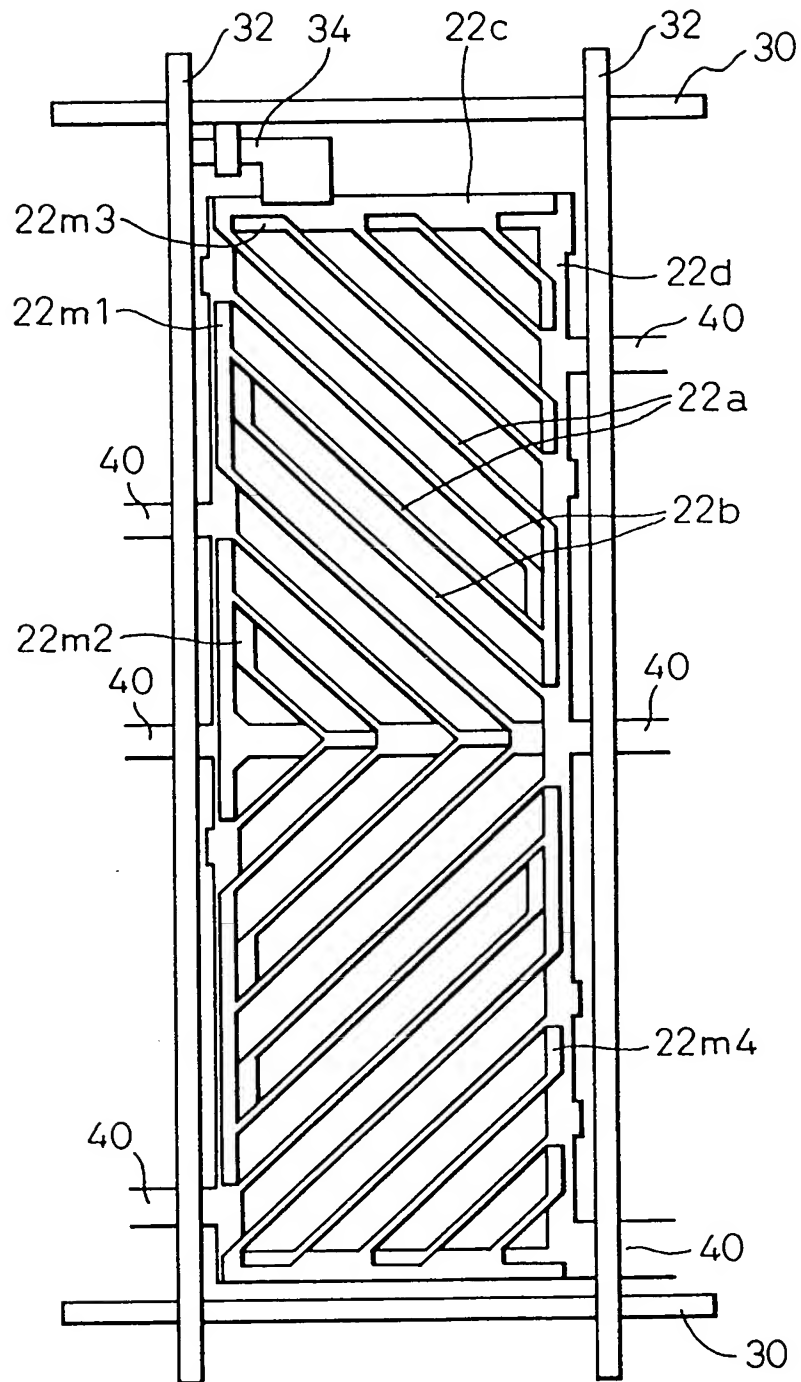
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Fig.49



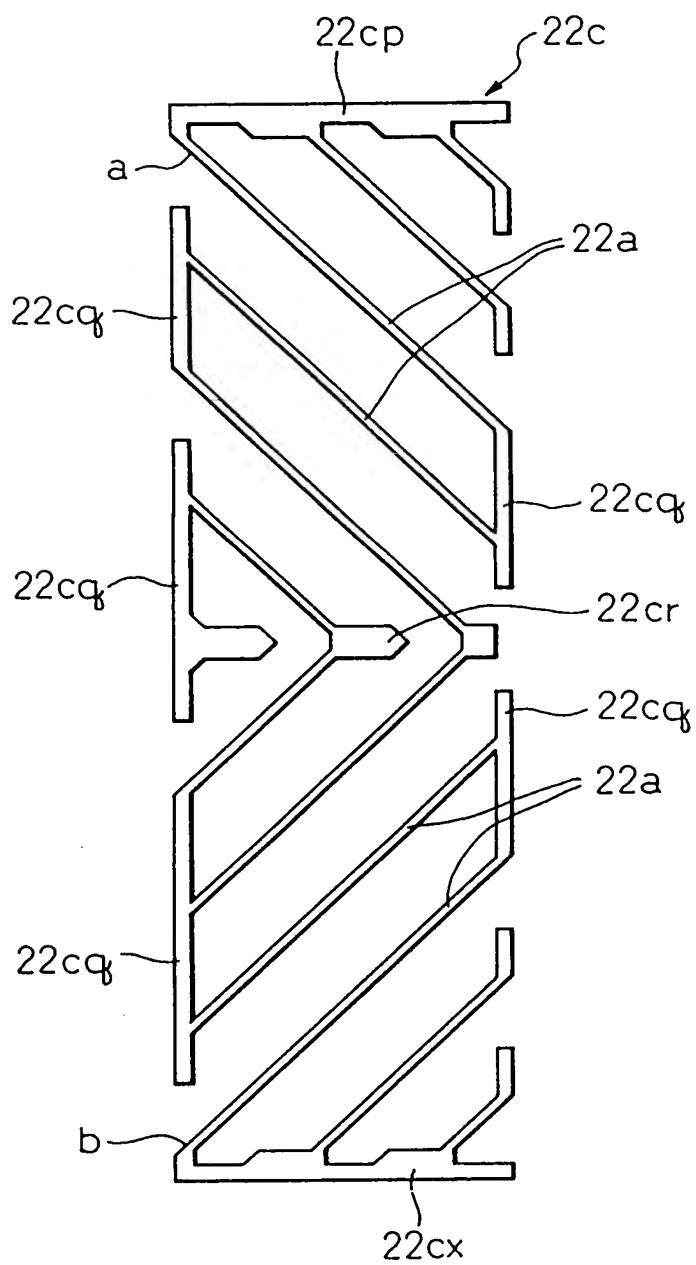
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106

Fig.50



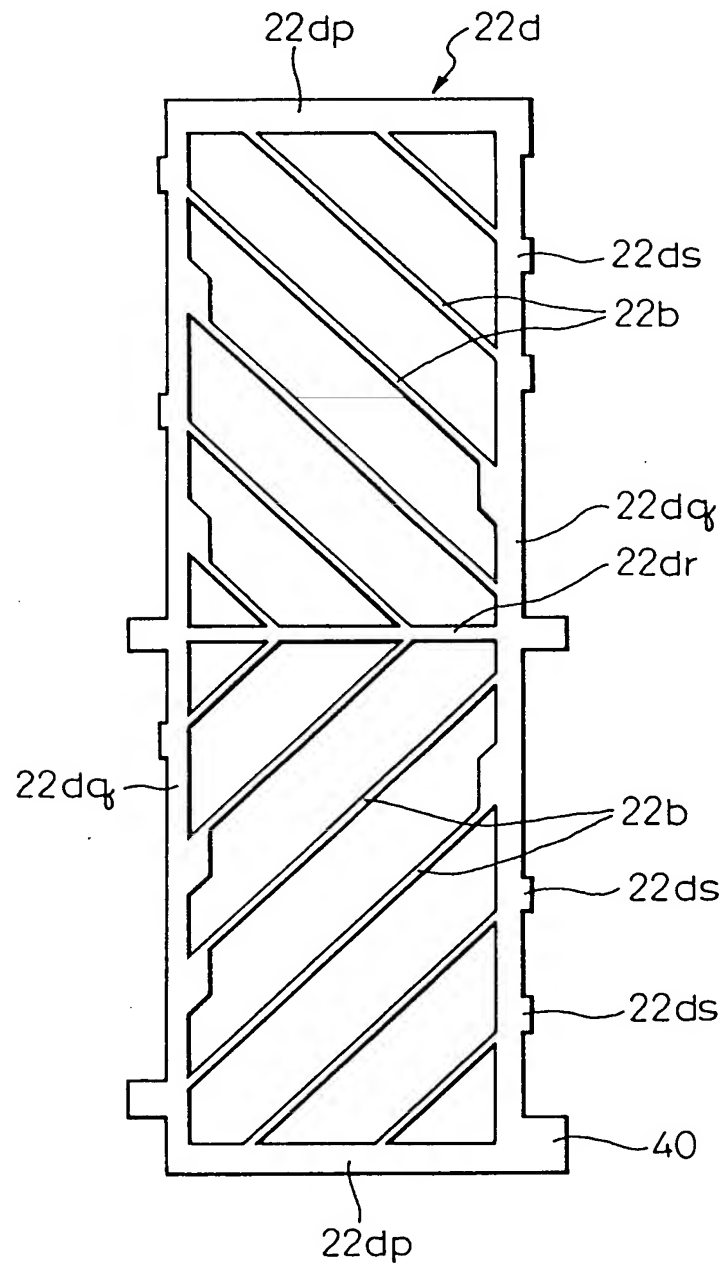
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106

Fig.51



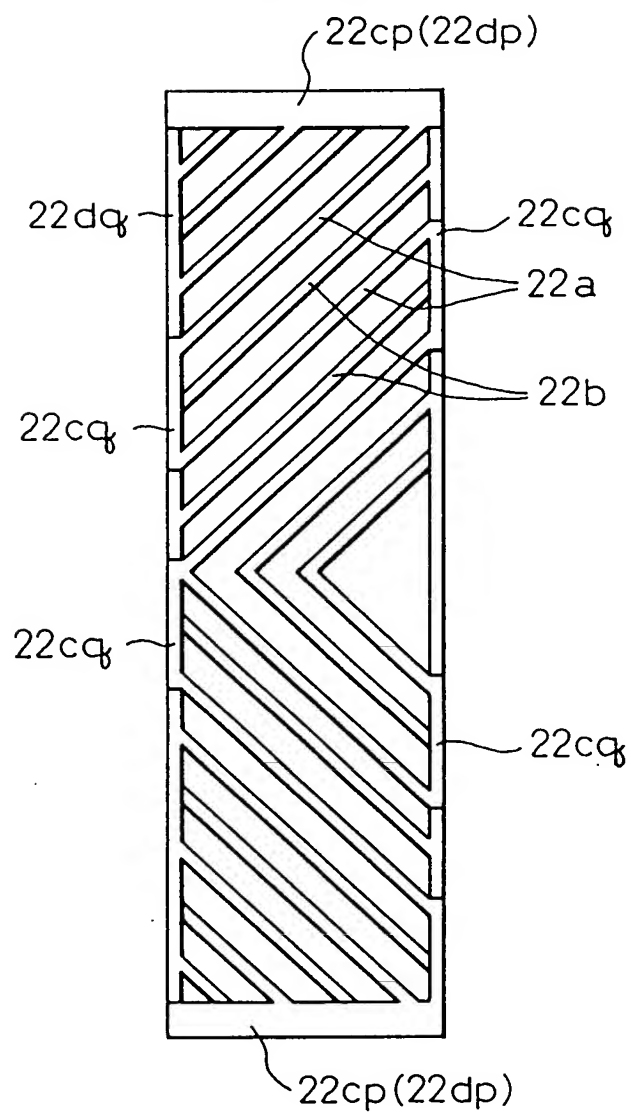
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106

Fig.52



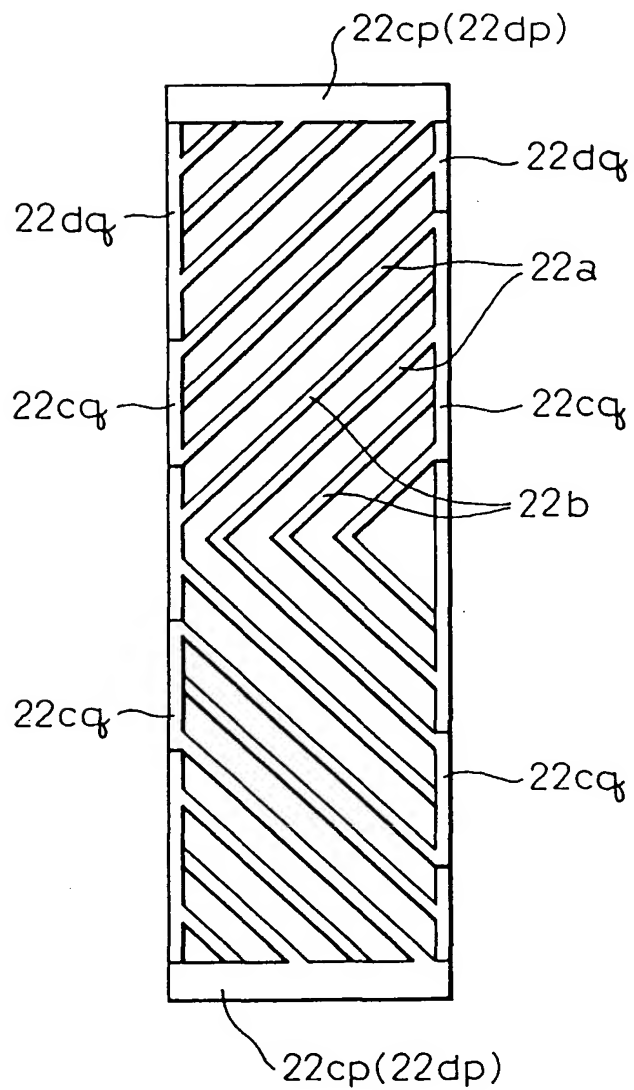
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Fig.53



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Fig. 54



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Fig.55A

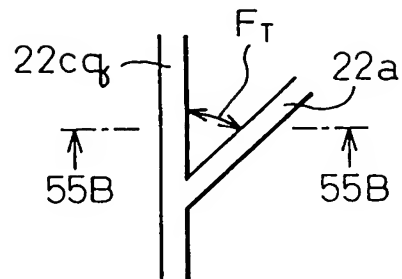


Fig.55B

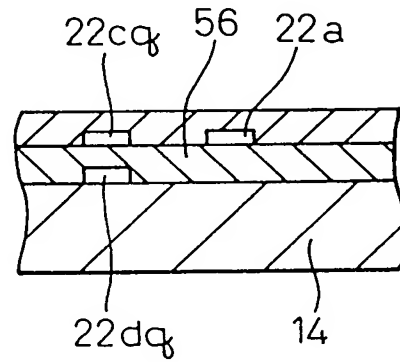


Fig.56A

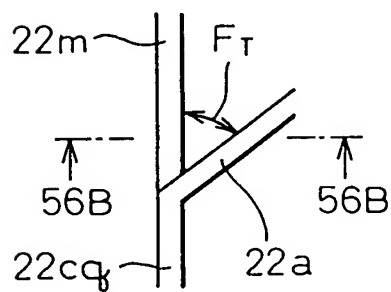
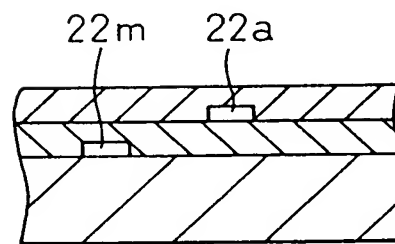
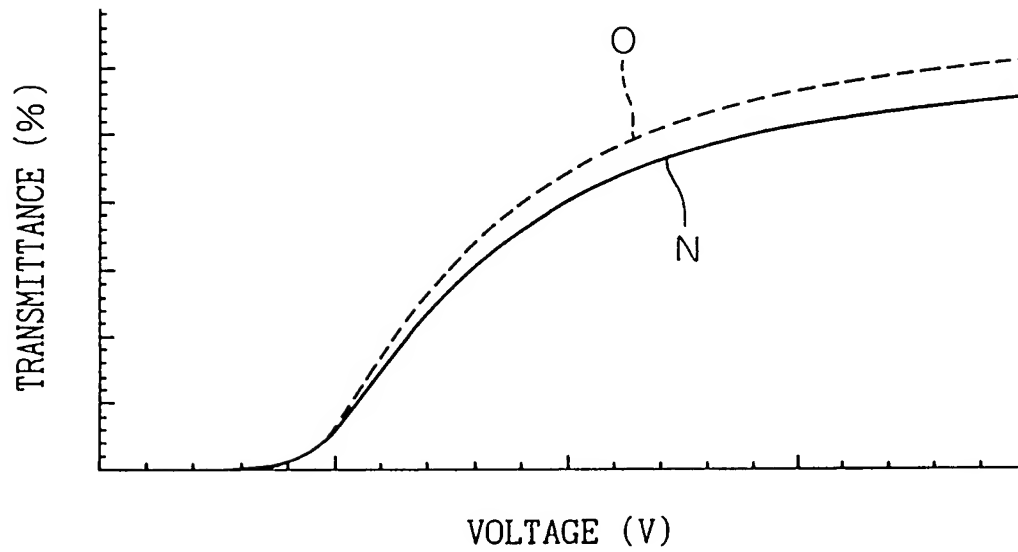


Fig.56B



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Fig.57



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Fig.58

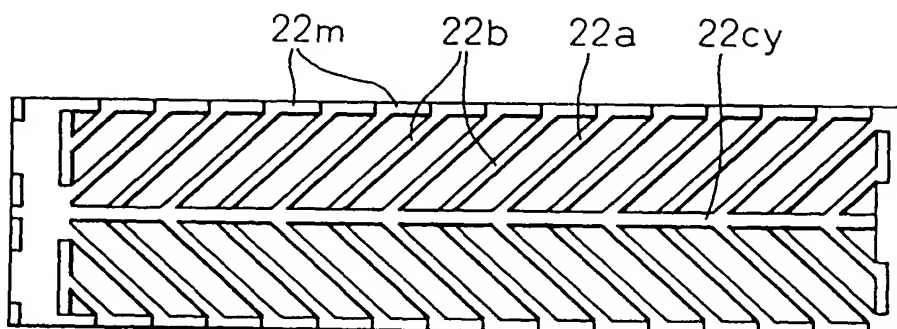
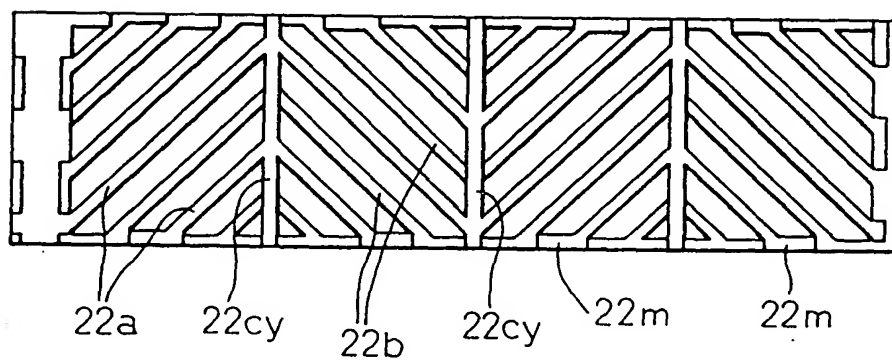


Fig.59



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Fig.60

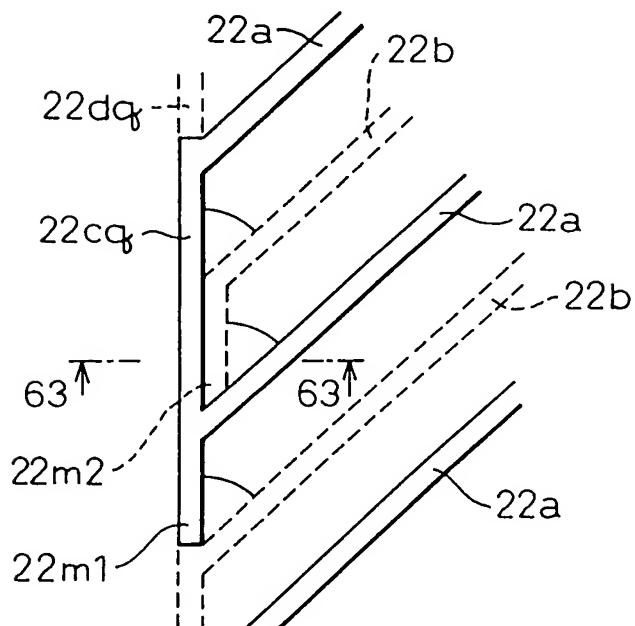
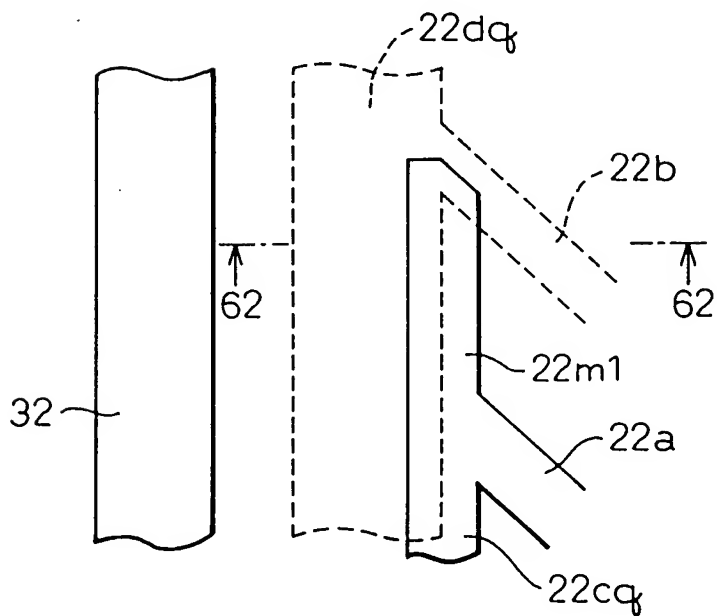


Fig.61



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Fig.62

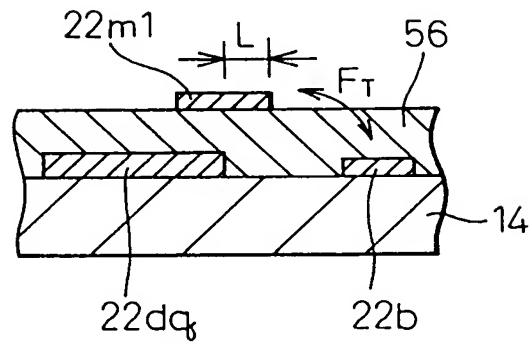
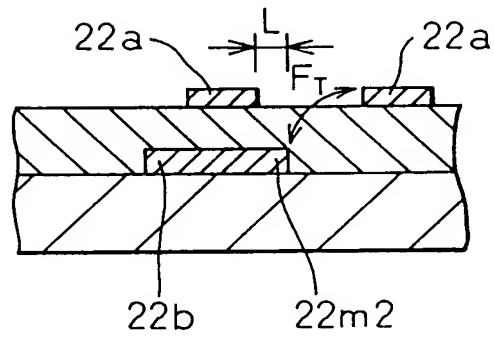


Fig.63



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Fig.64

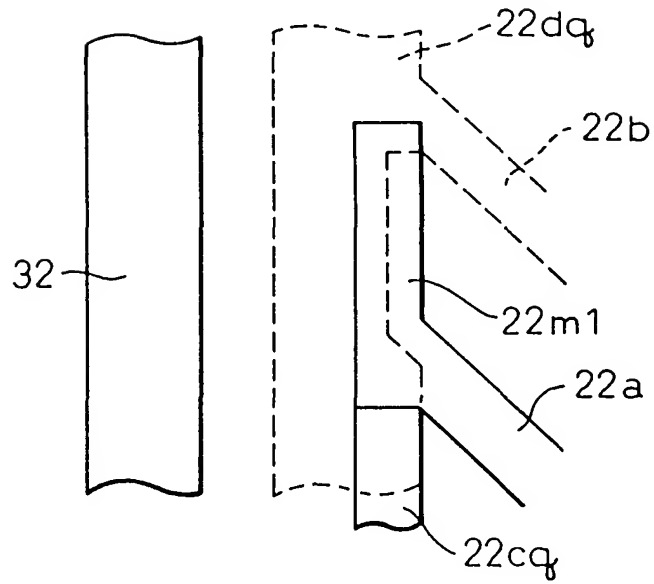
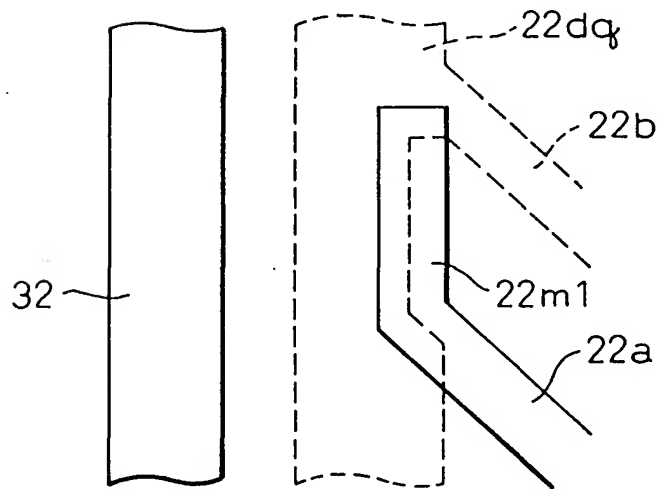
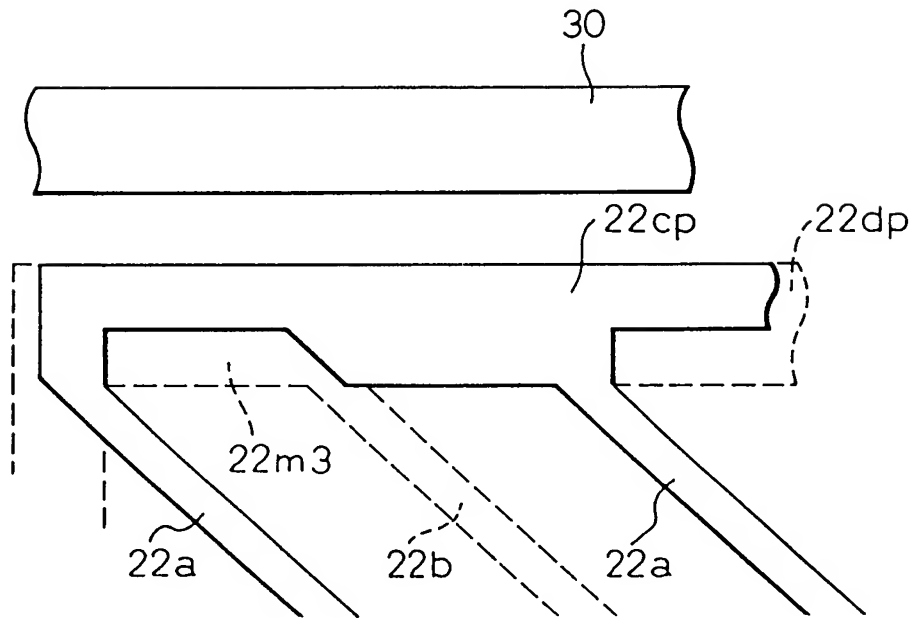


Fig.65



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Fig.66



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Fig.67

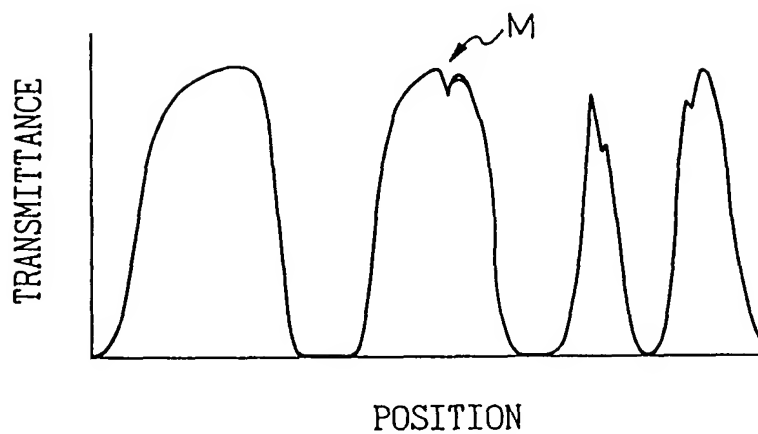
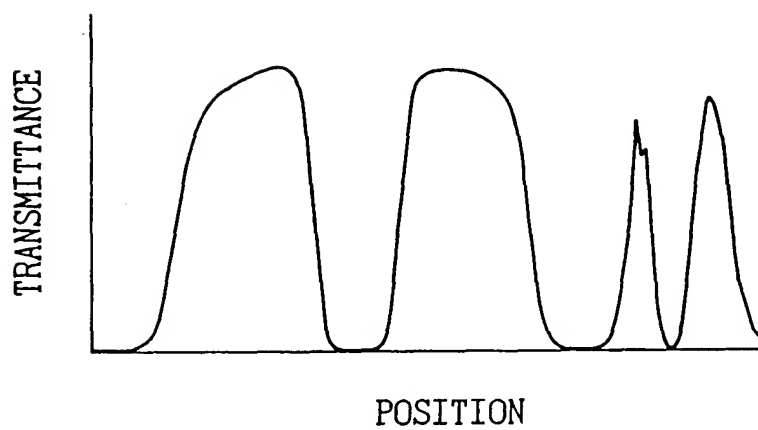


Fig.68



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Fig.69

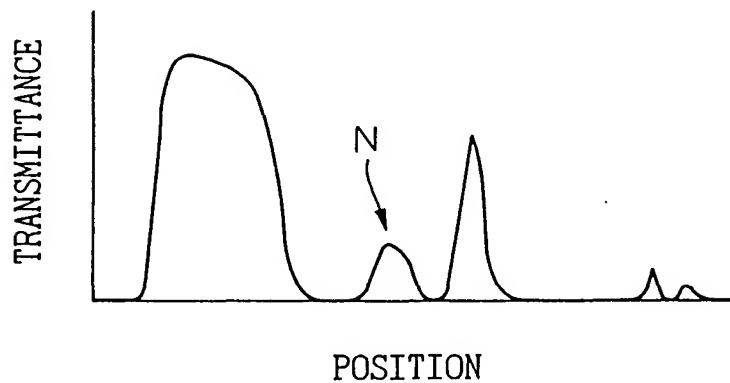
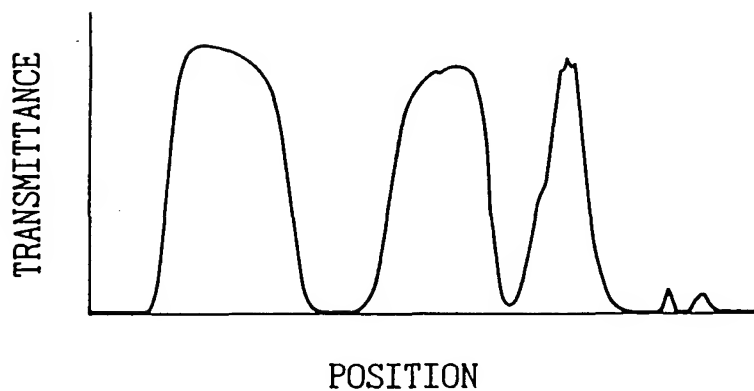
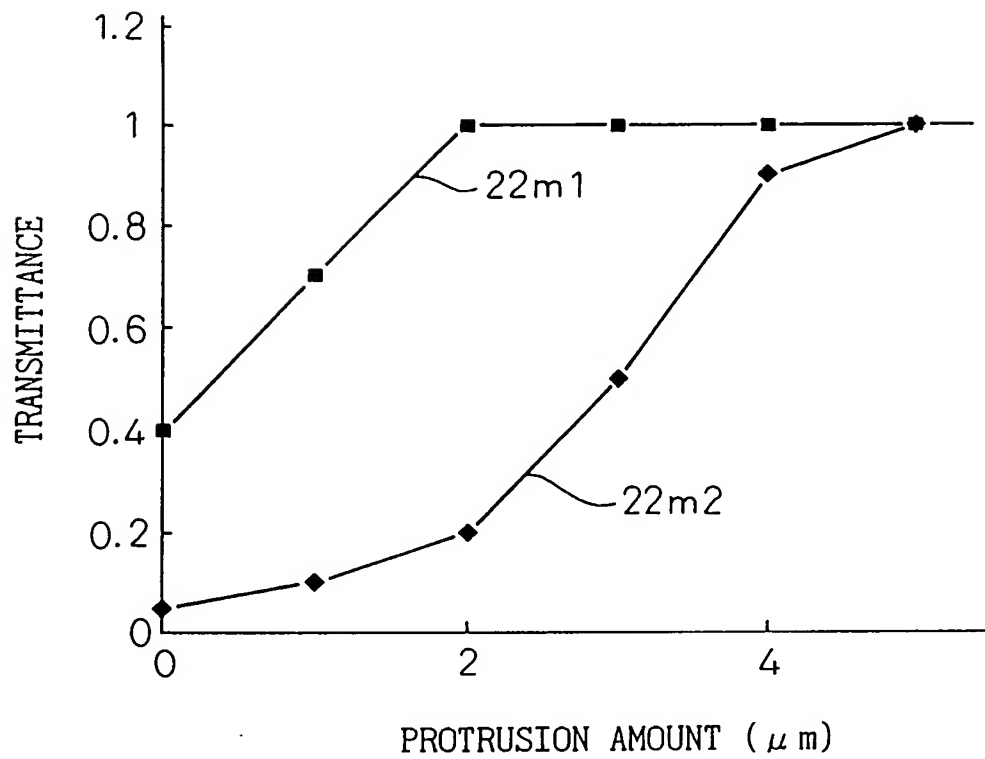


Fig.70



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Fig.71



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Fig.74

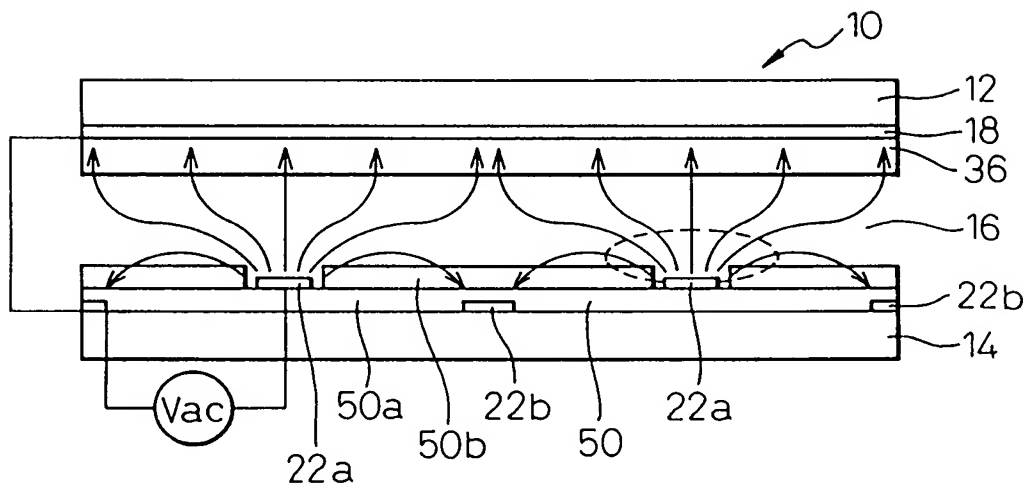
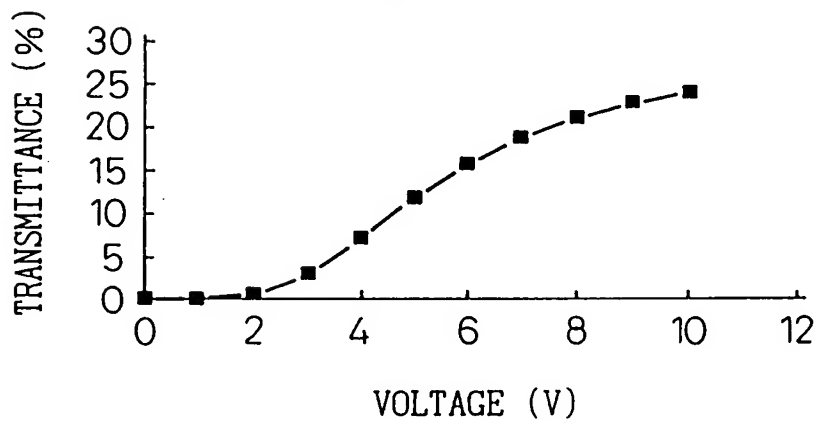


Fig.75



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Fig.76

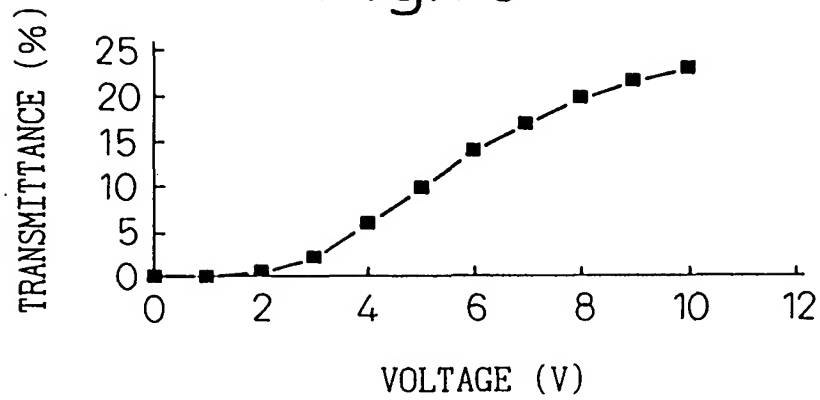


Fig.77

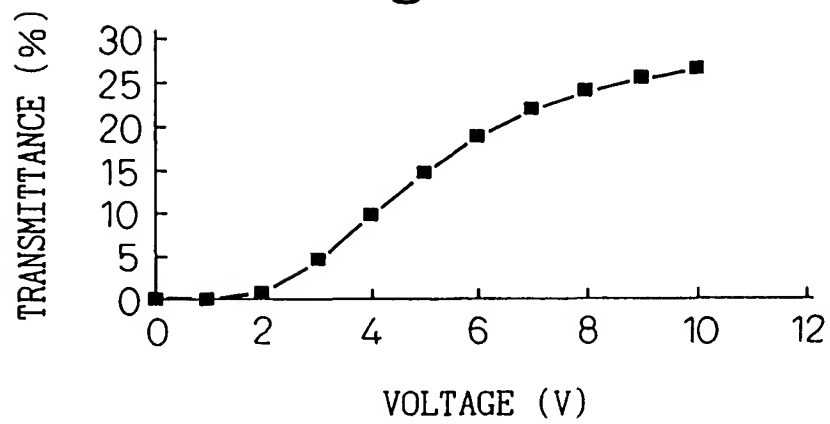
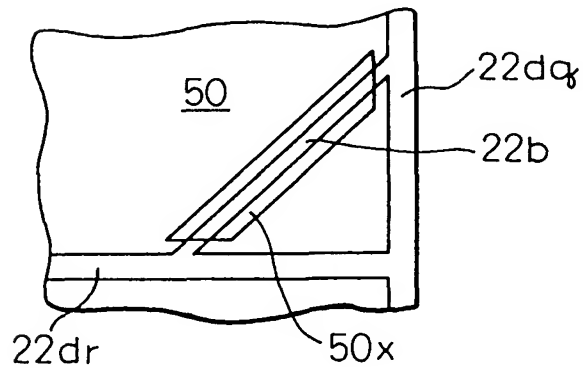


Fig.78



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Fig.79

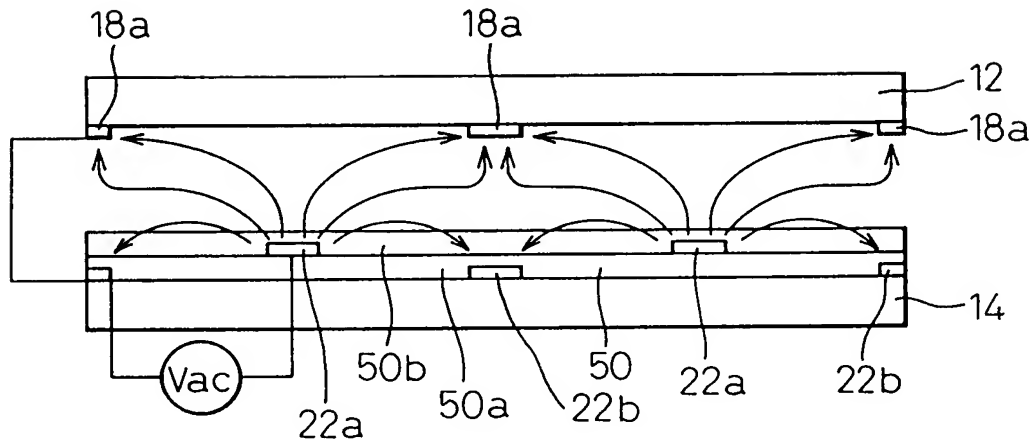
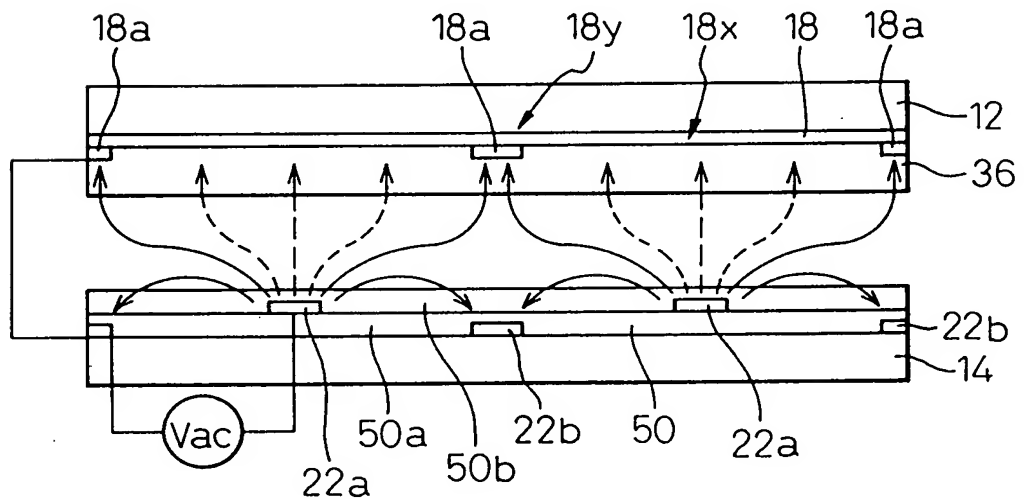


Fig.80



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Fig.81

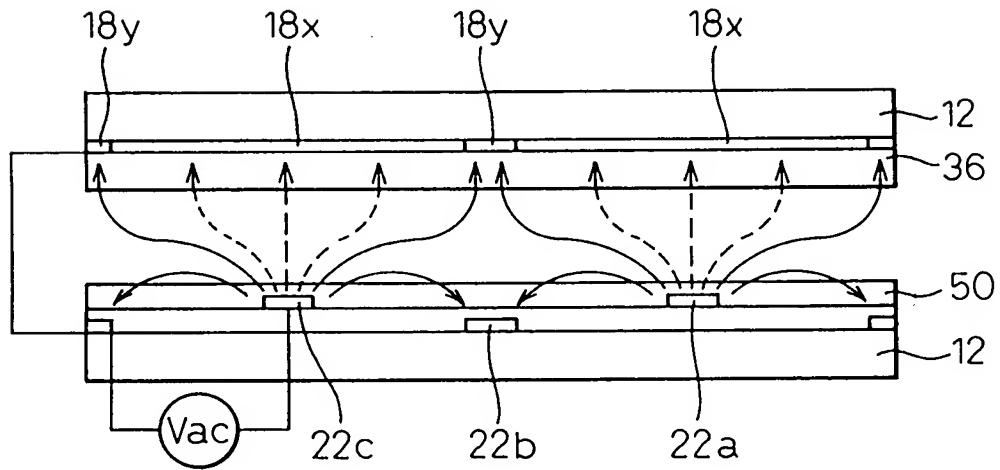
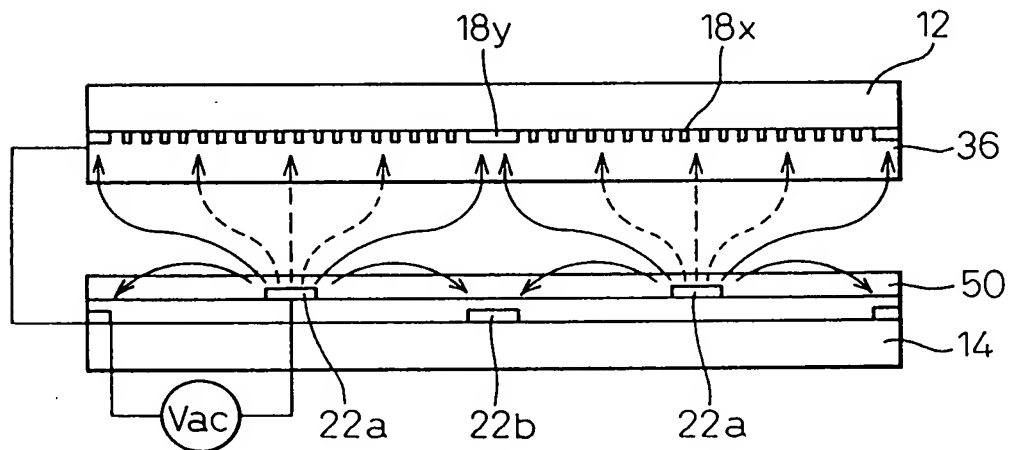


Fig.82



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Fig.83

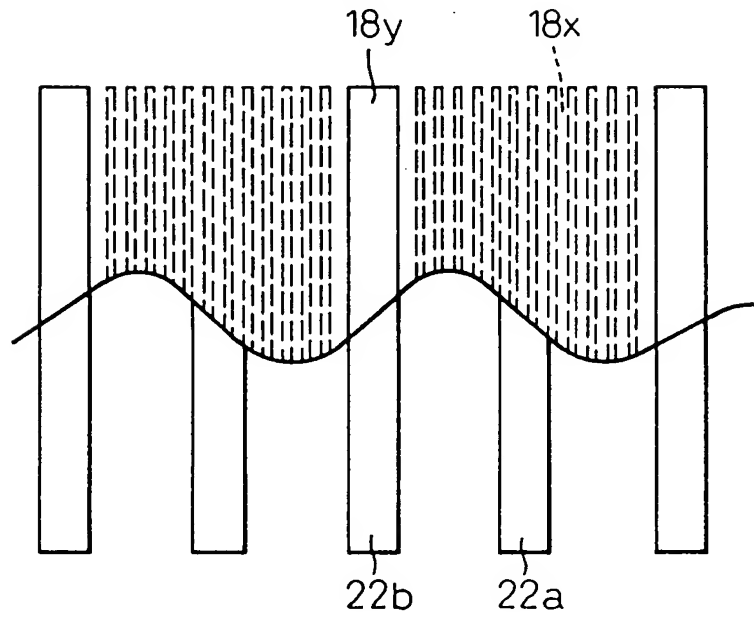
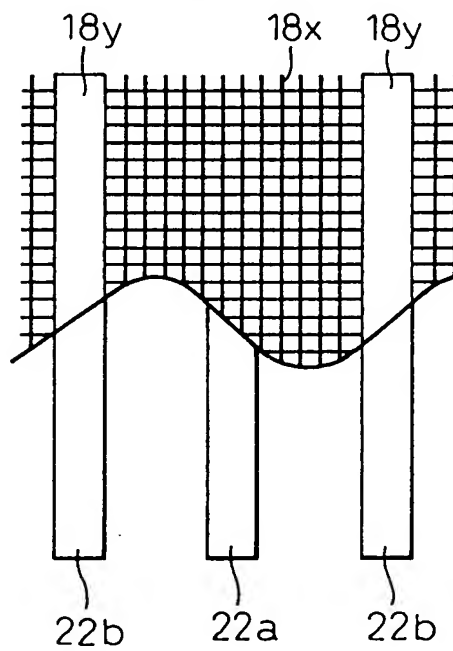


Fig.84



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Fig.85

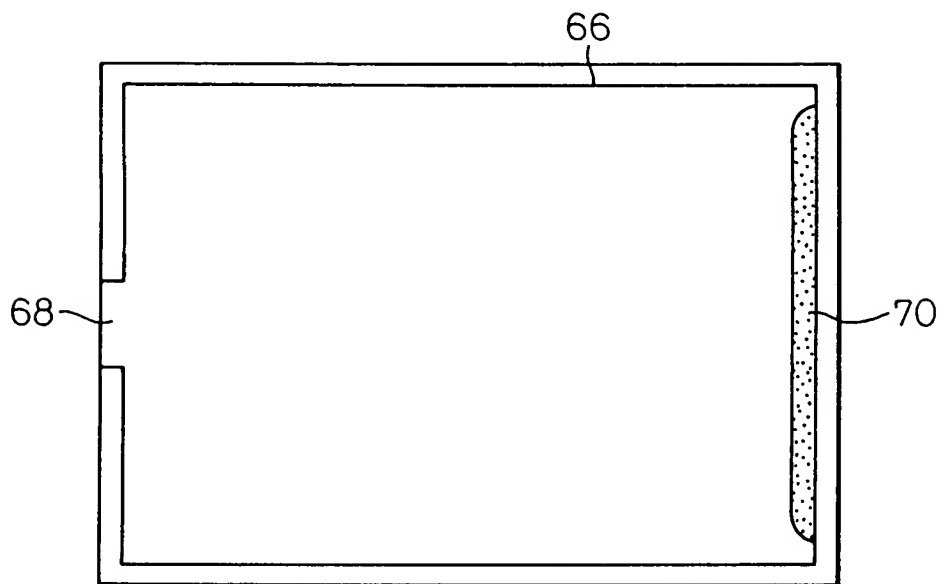
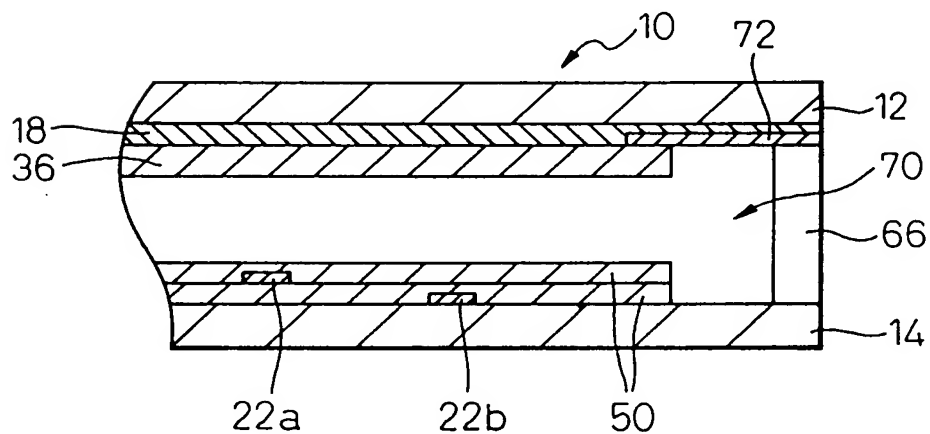
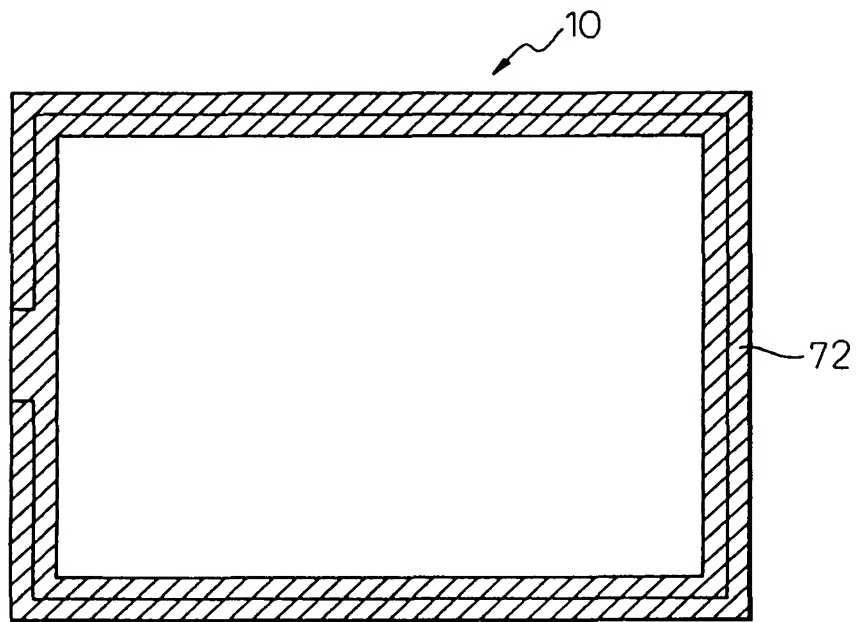


Fig.86



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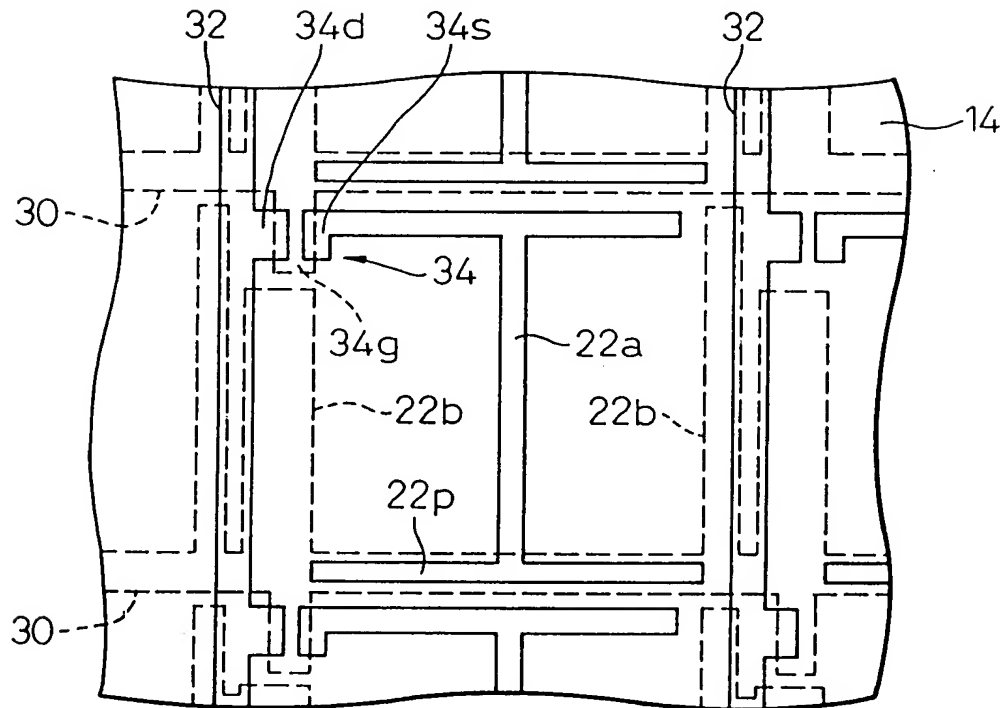
Fig.87



A cross-sectional view of a semiconductor device 10. The device features a substrate 12 with a top layer 20. A central region 16 contains a complex structure 34. This structure includes a central core 32, surrounded by layers 34a, 34b, 34c, 34d, and 34s. A layer 24 is positioned above the central core 32. The device is further defined by layers 50a and 50b, and a bottom layer 14. A layer 22b is also indicated at the bottom left.

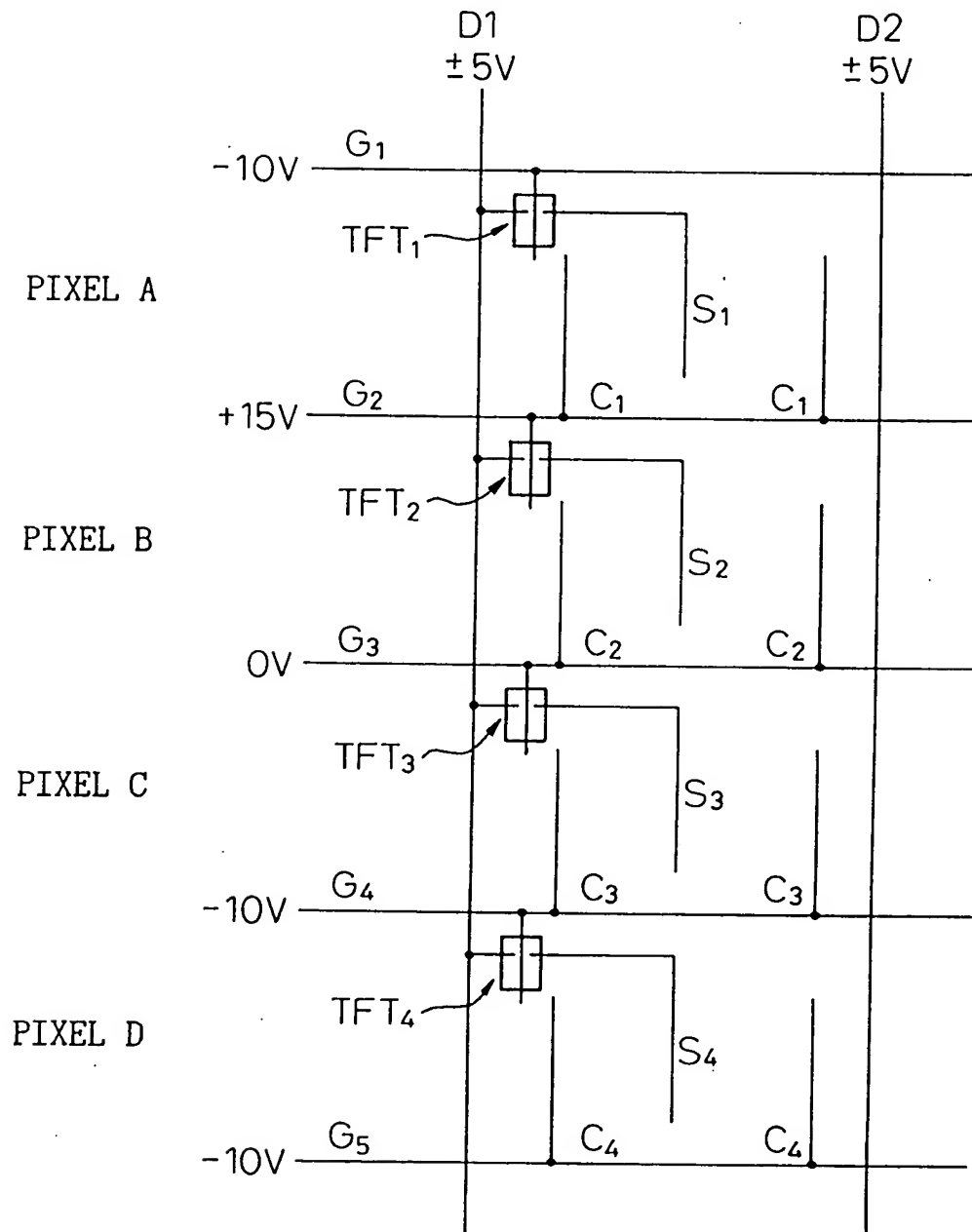
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Fig.90



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Fig.91A



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Fig.91B

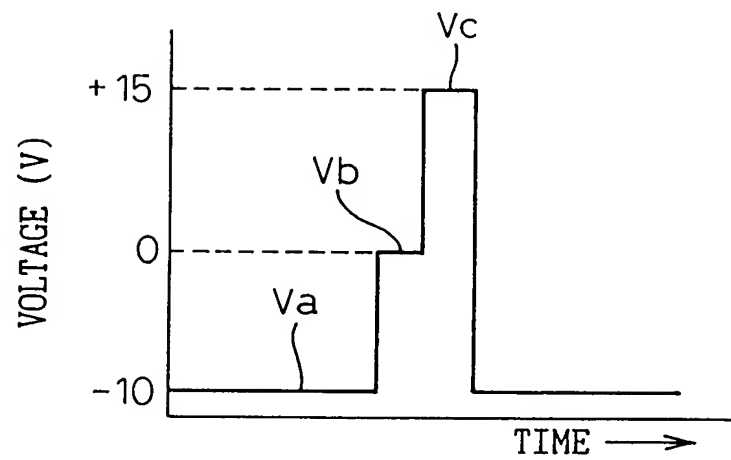
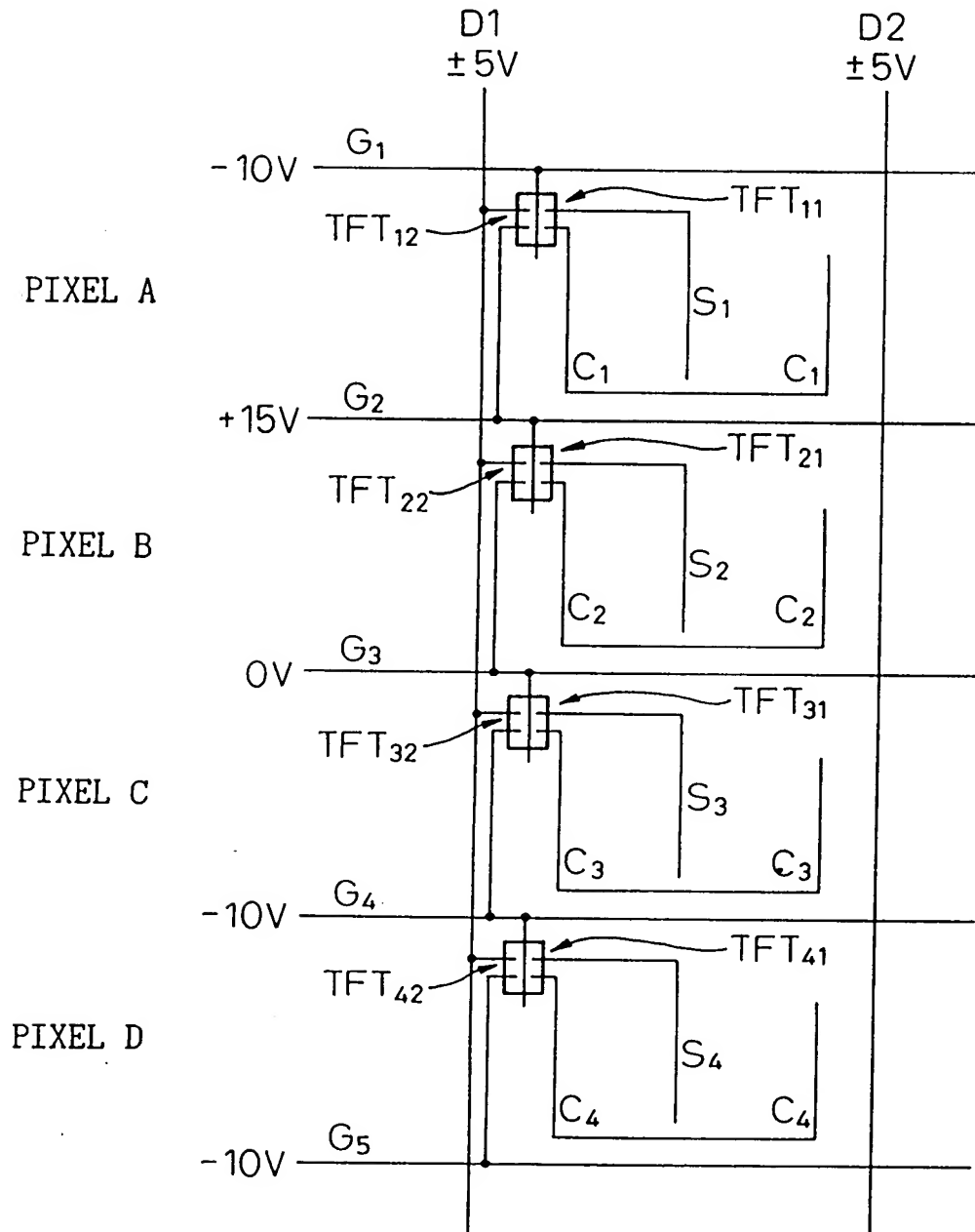


Fig. 1 is a cross-sectional view of a semiconductor device. The device includes a substrate 14. A central region 22 is defined within the substrate. This region 22 is further divided into a top layer 22a and a bottom layer 22b. A central vertical structure 23 is positioned within the bottom layer 22b. Surrounding the central region 22 is a layer 40a. The device is bounded by a top layer 30 and a bottom layer 32. Various other components are labeled: 34d, 34s, 34g, 34x, 34y, and 22c.

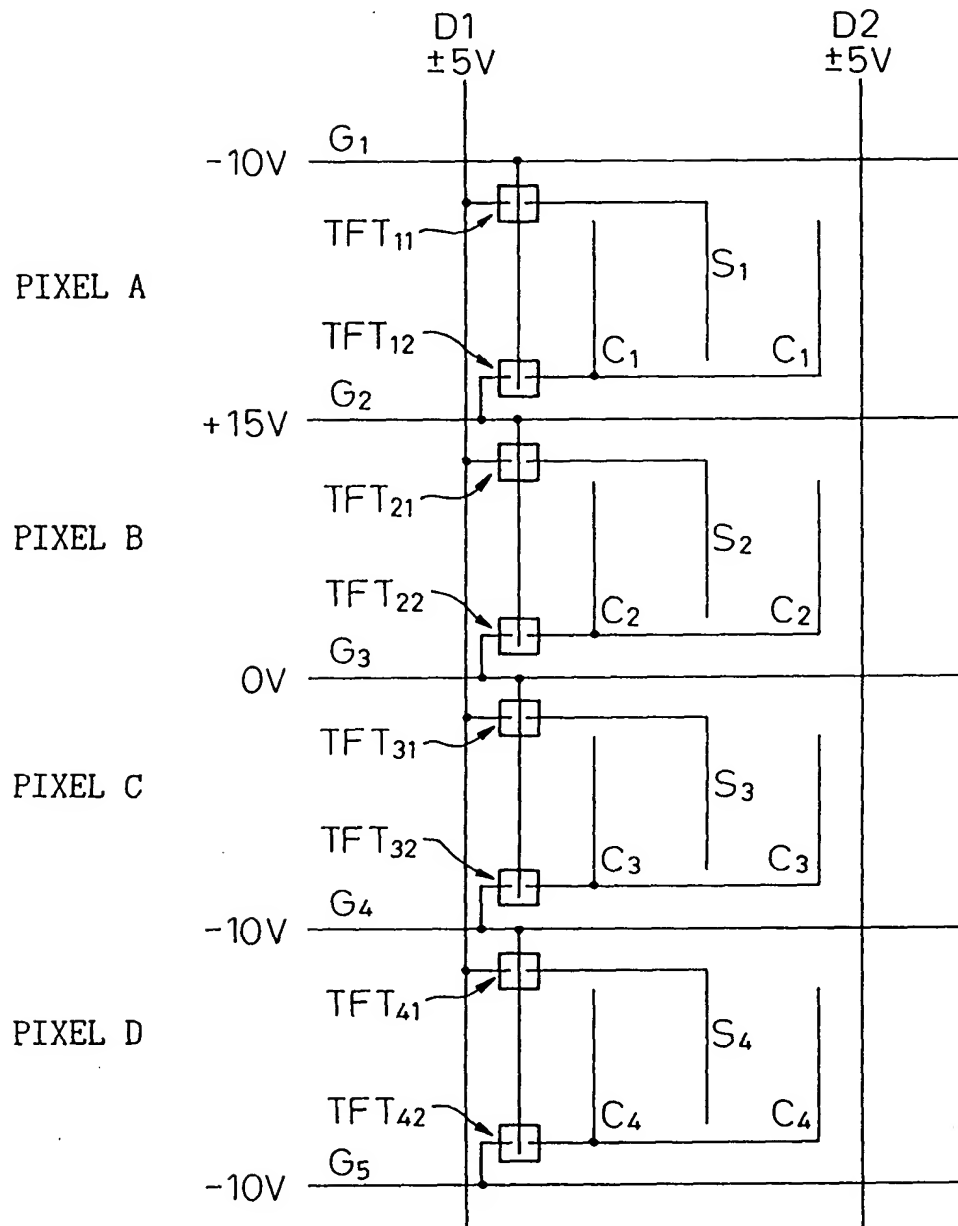
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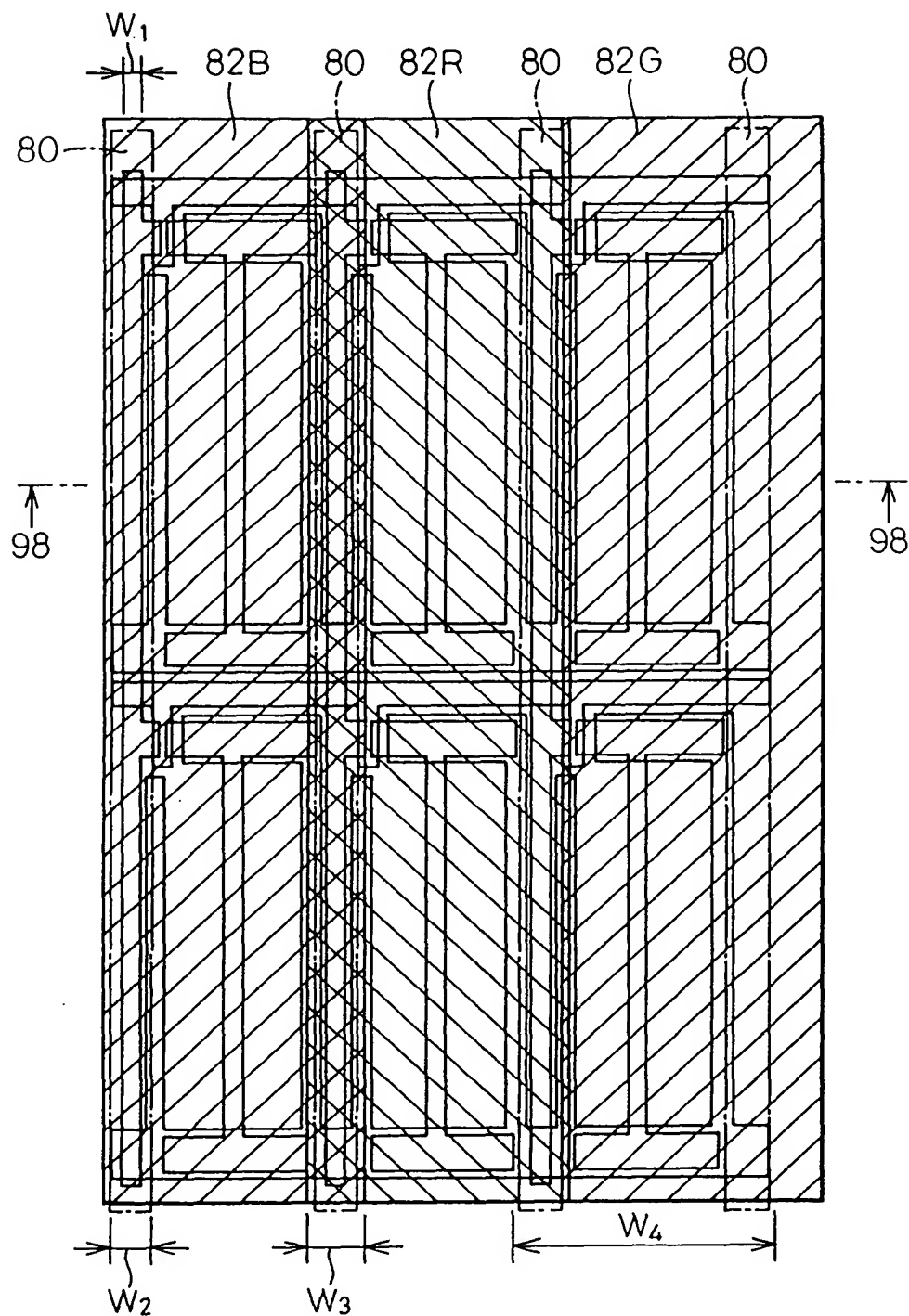
Fig.94



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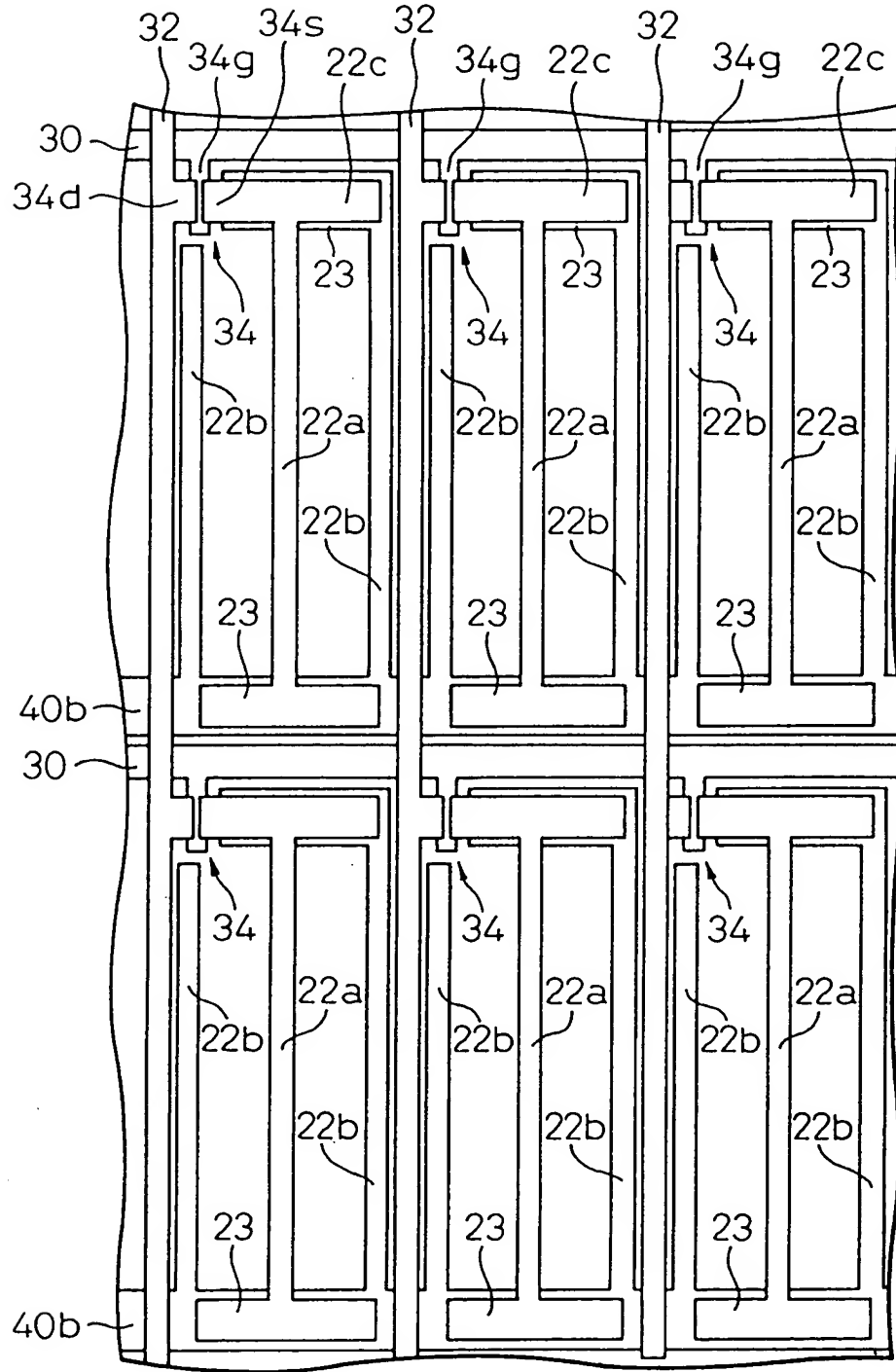
Fig.95





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Fig.97



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Fig.98

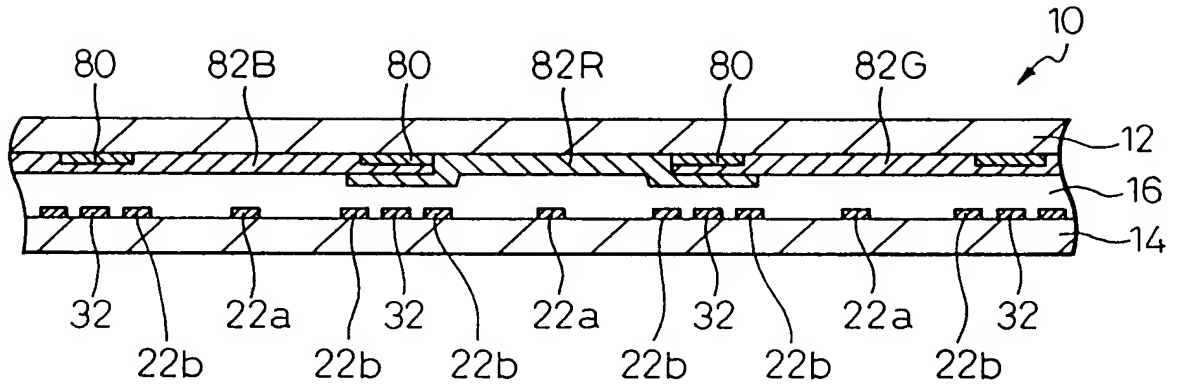
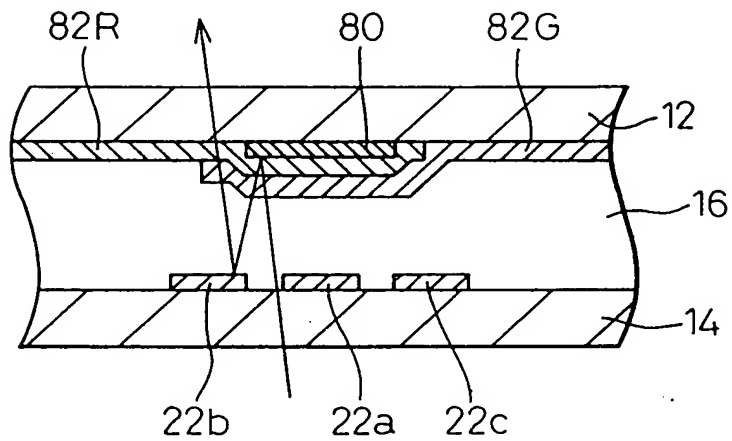
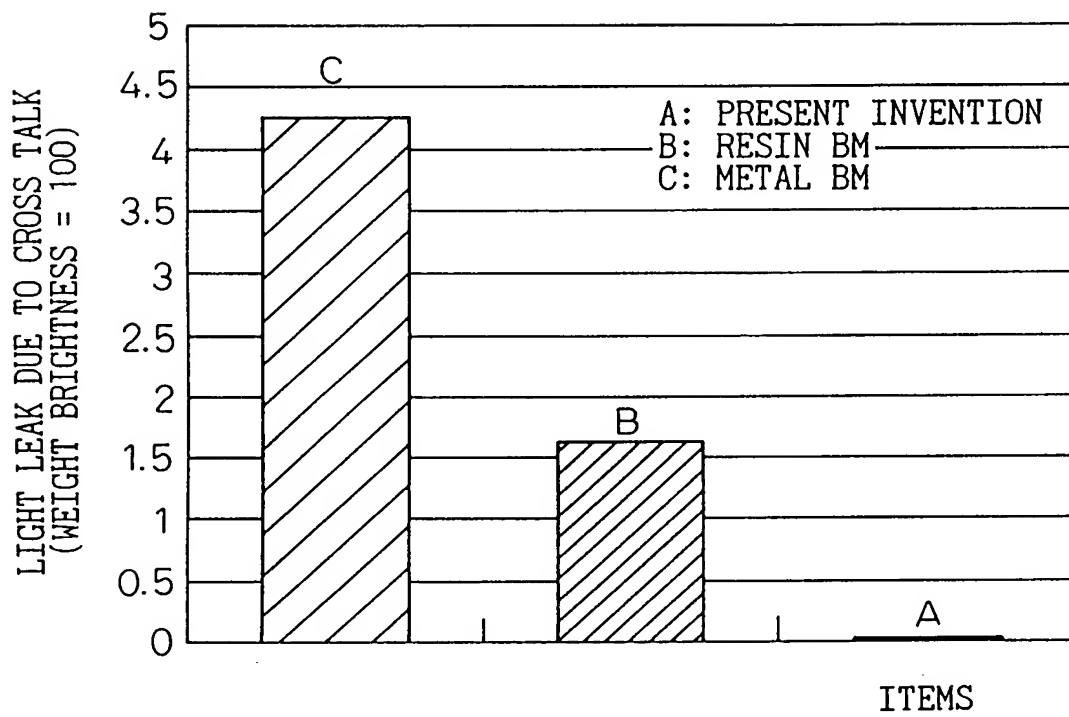


Fig.99



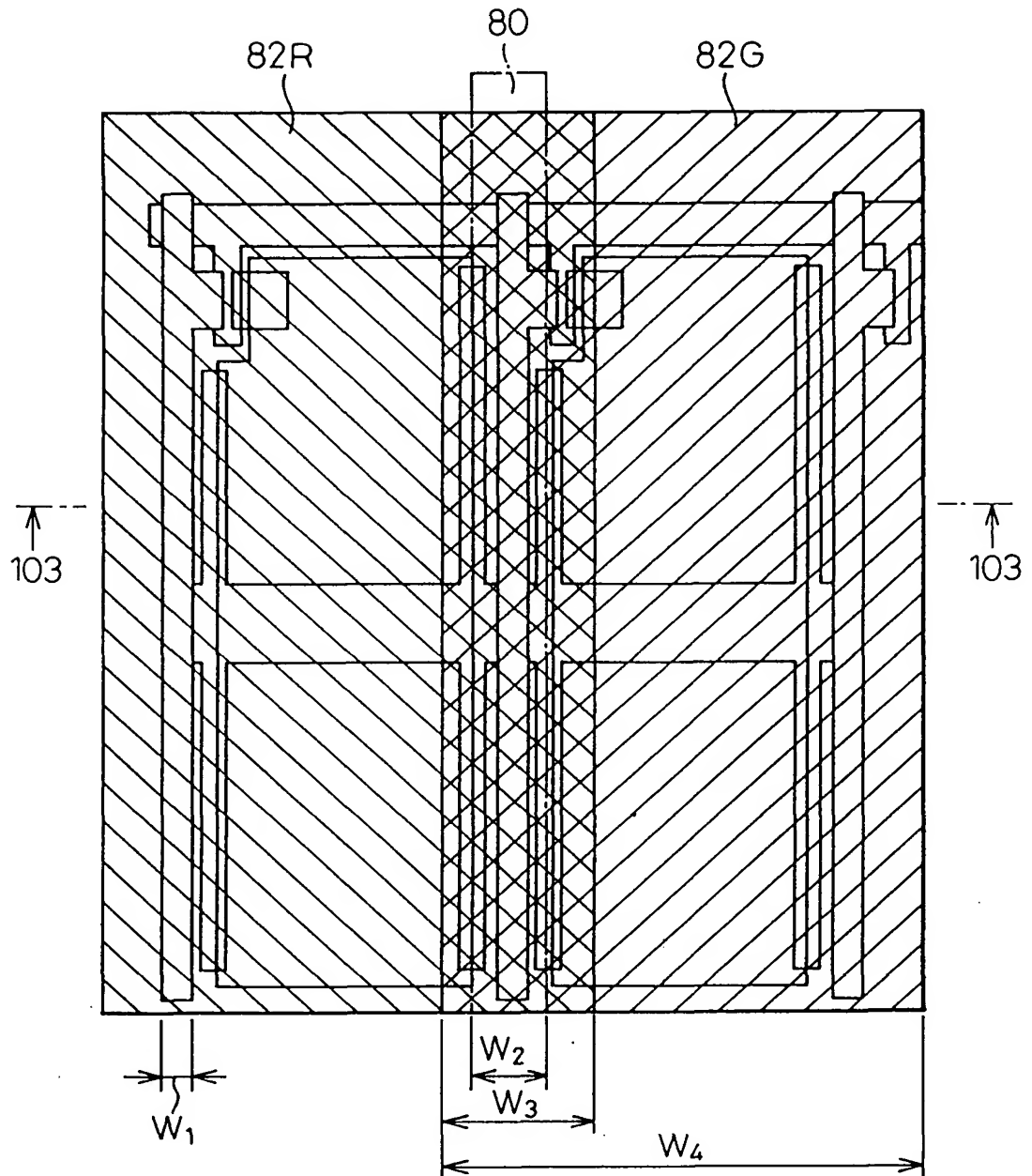
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Fig.100



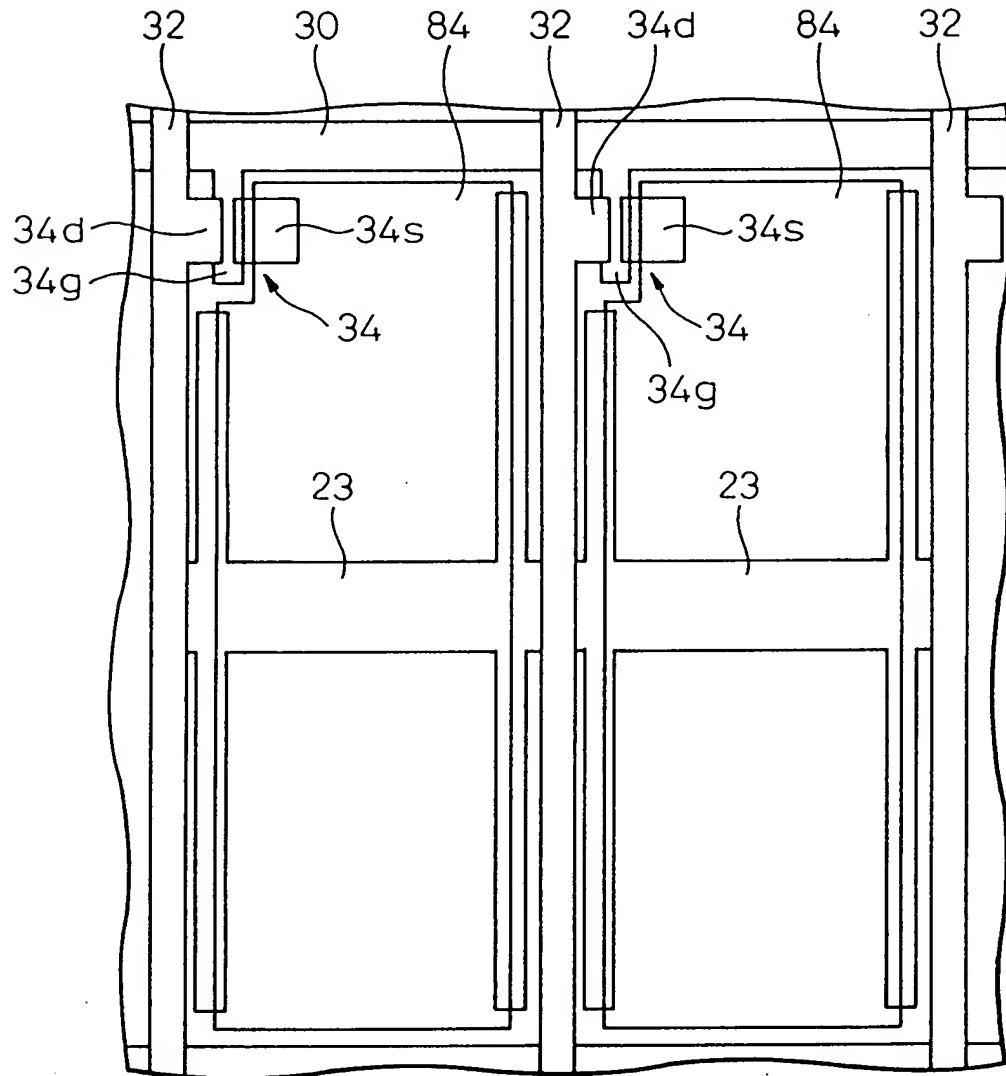
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Fig.101



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Fig.102



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Fig.103

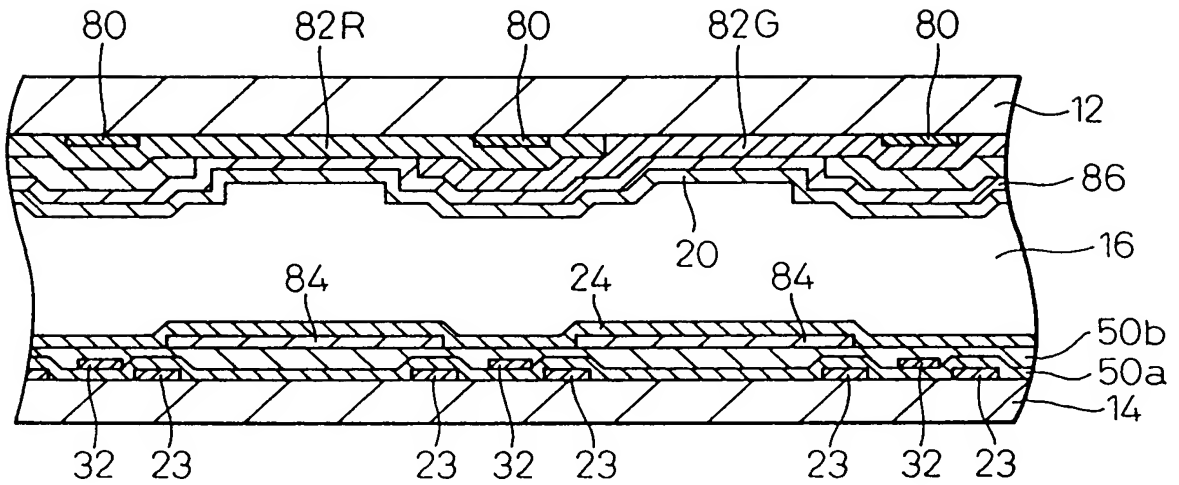
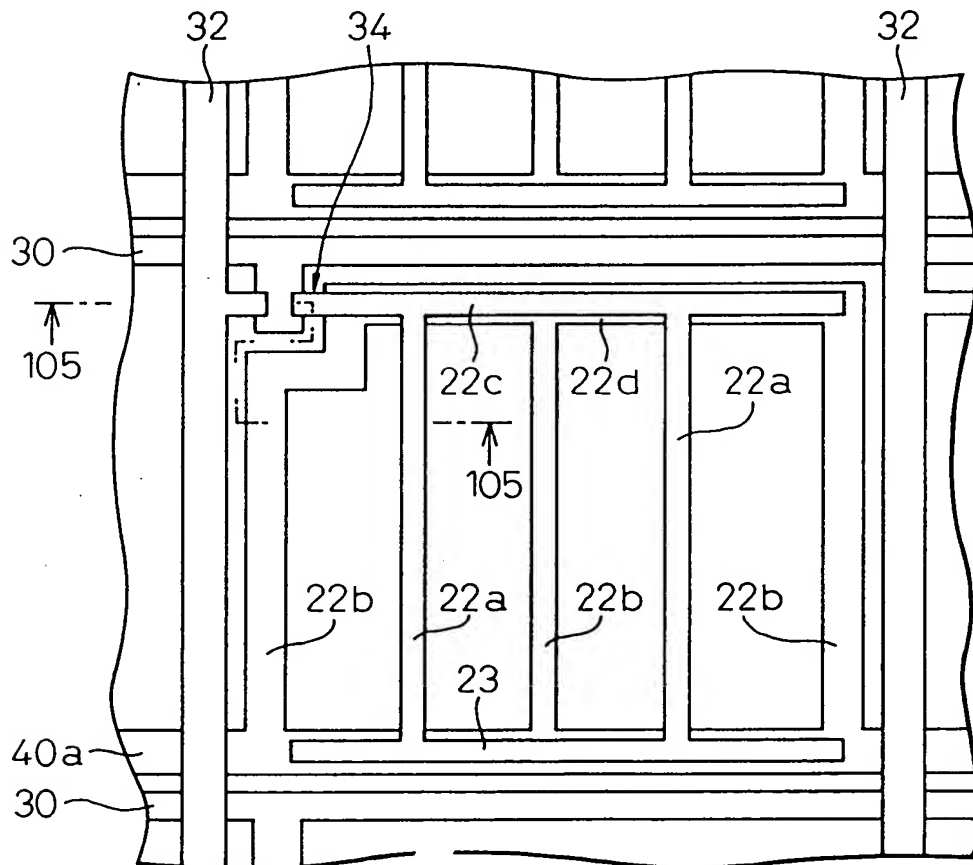


Fig.104



A cross-sectional view of a semiconductor device. The device consists of a substrate 10, a thin layer 12, a layer 20, a layer 16, and a layer 14. A central structure 24 is shown with various sub-components labeled 34a, 34b, 34c, 34d, 34s, 34g, 22a, 22b, 50a, and 50b.

Figure 1 is a schematic diagram of a measurement system. It shows a cylindrical component 16 connected to a voltage source V. The component has two shaded regions, 88a and 88b, representing electrodes. The regions are separated by a gap, and the gap is labeled 89a and 89b.

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Fig.107

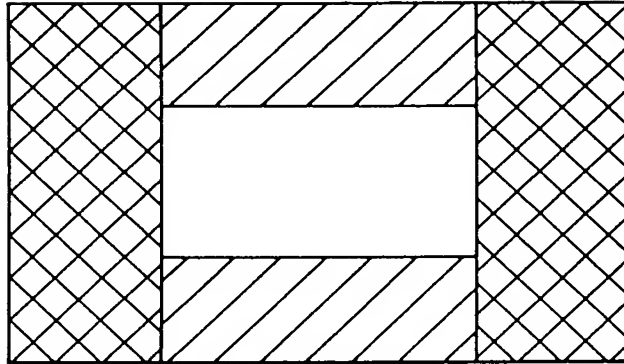
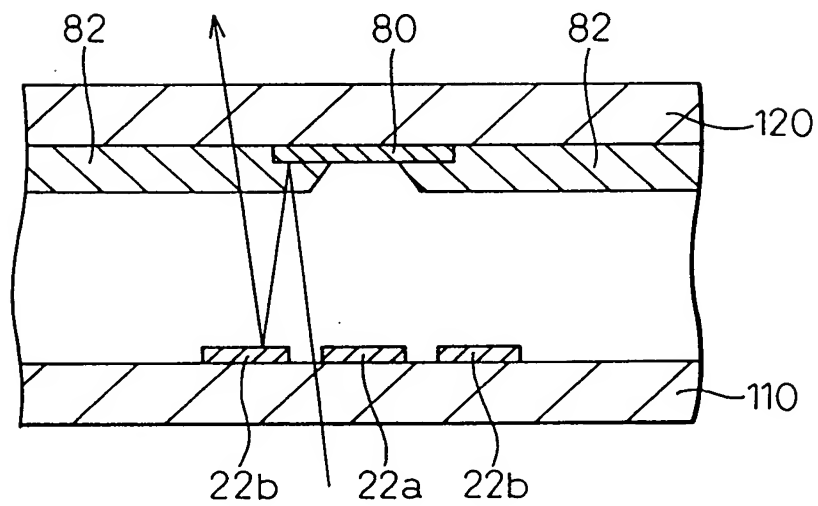
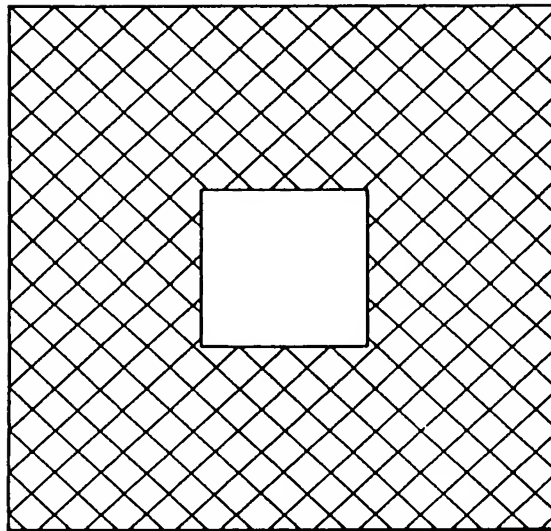


Fig.108



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Fig.109



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Fig.110

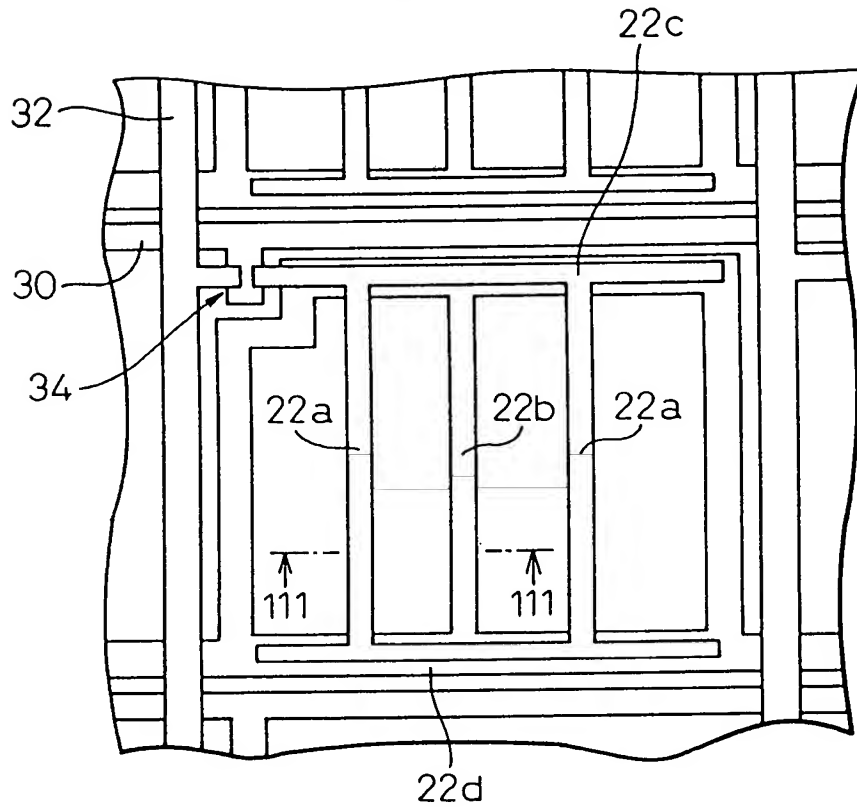
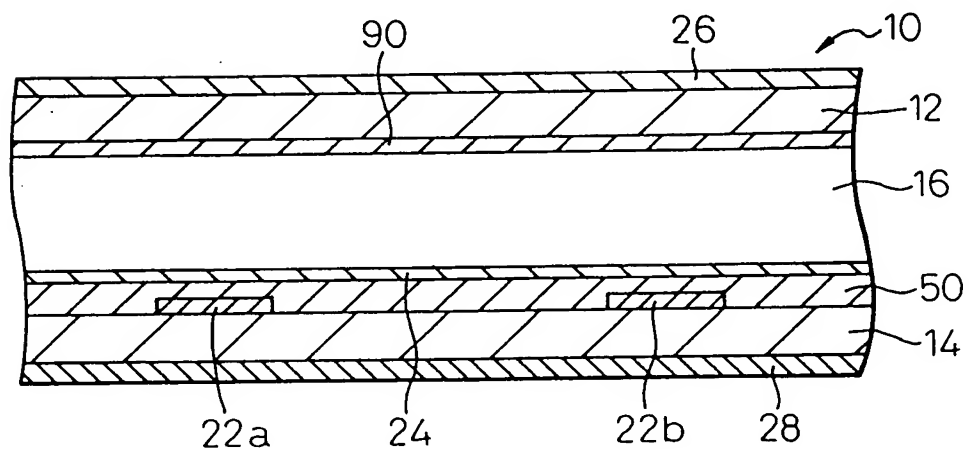


Fig.111



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Fig.112

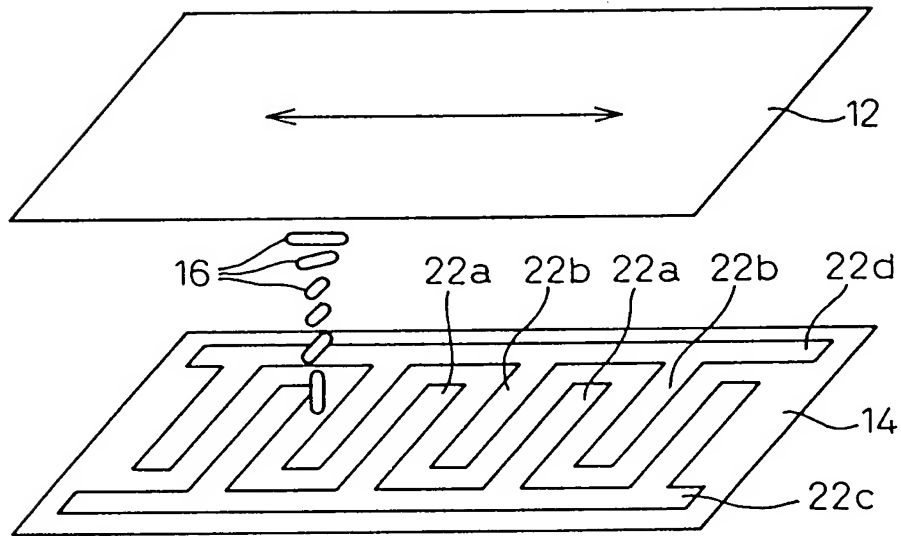
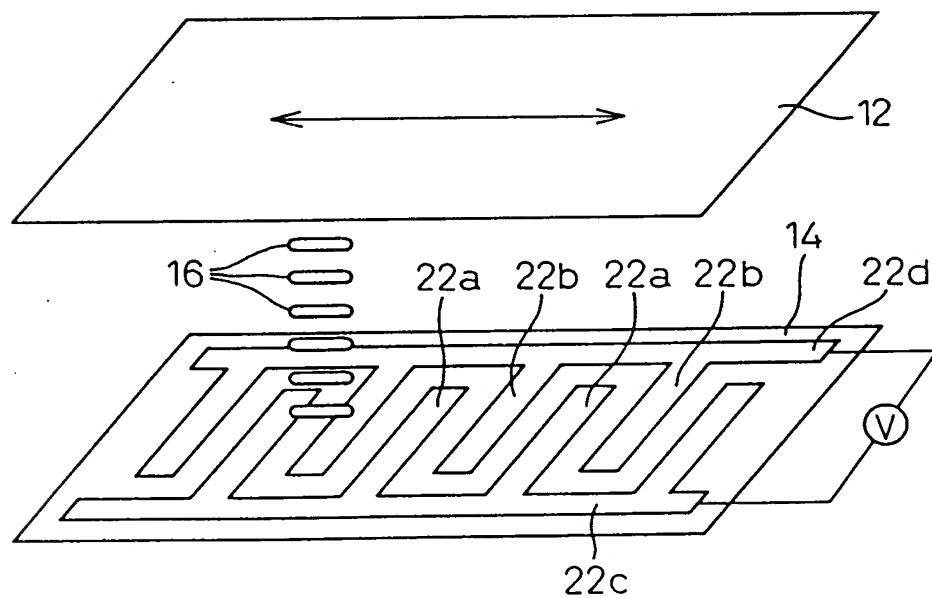
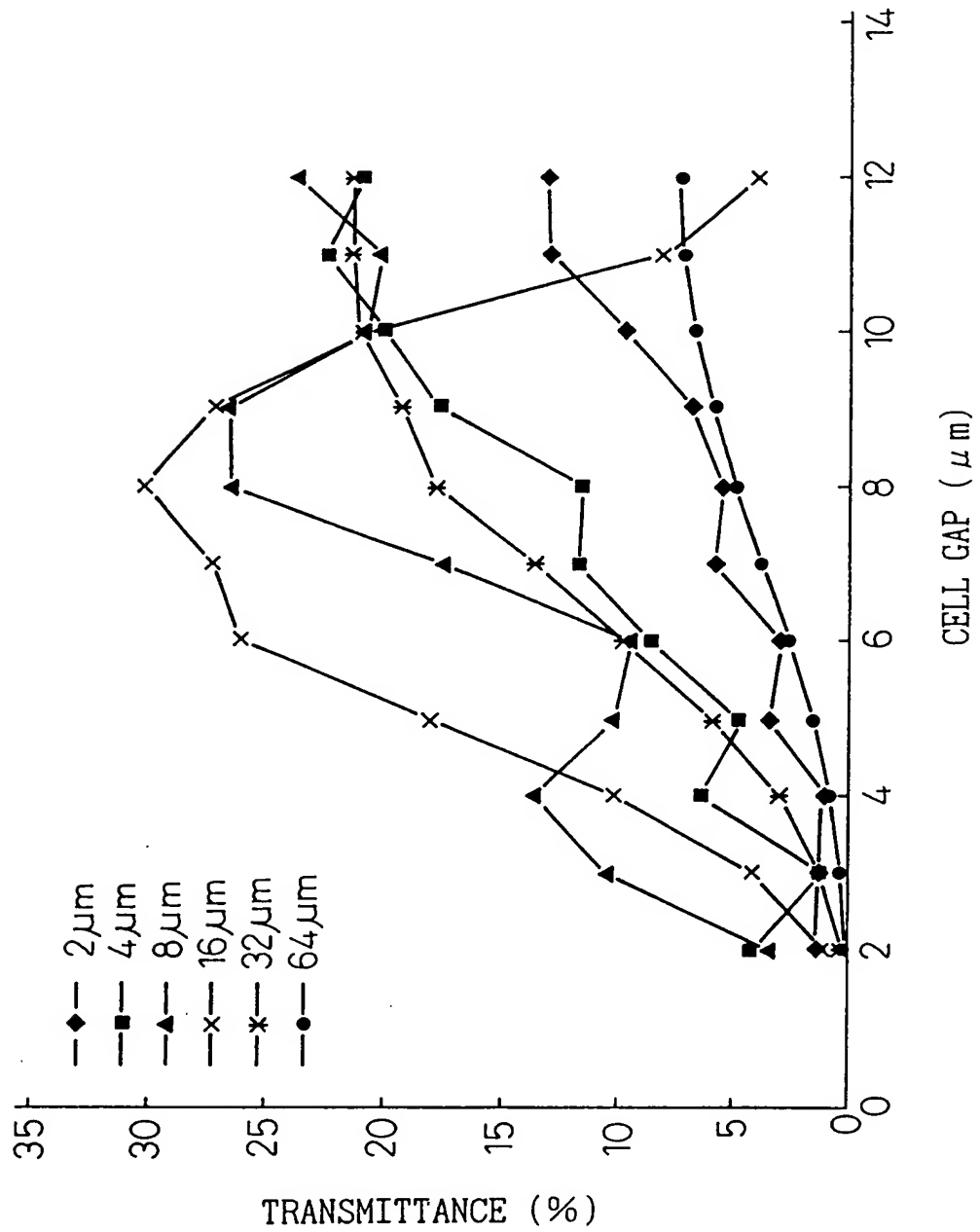


Fig.113



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Fig.114



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Fig.115A

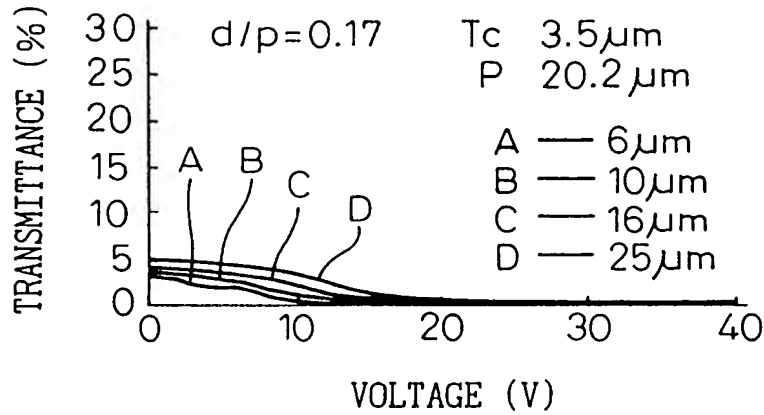


Fig.115B

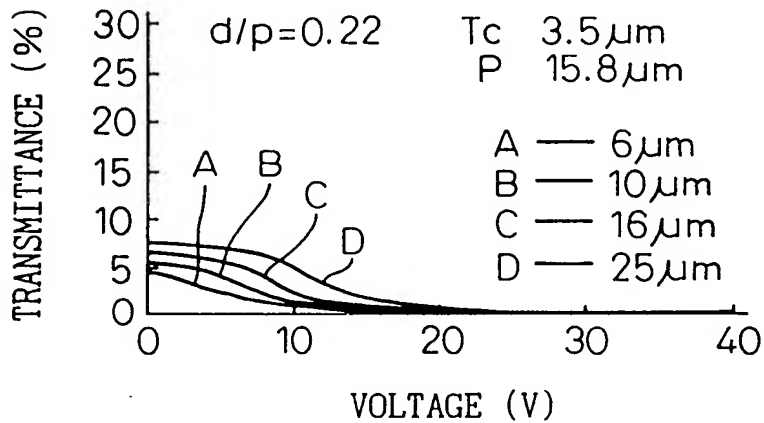
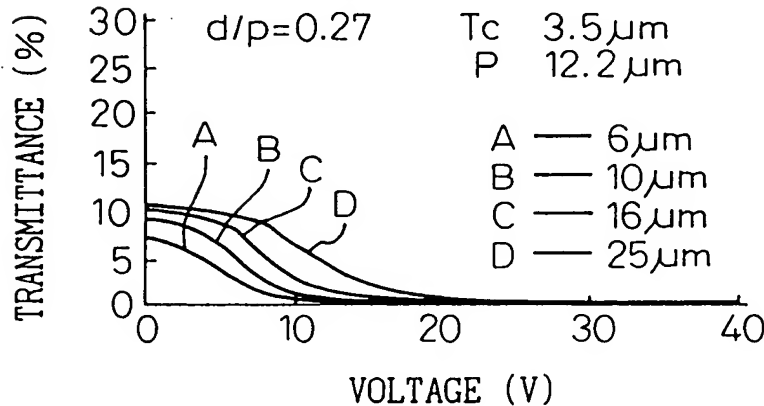


Fig.115C



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Fig.116A

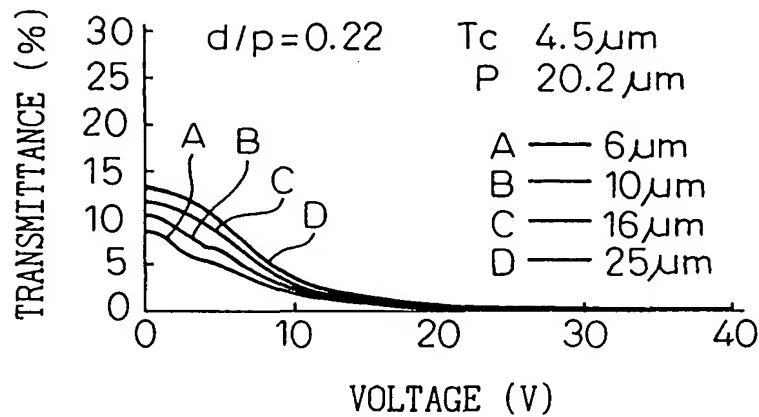


Fig.116B

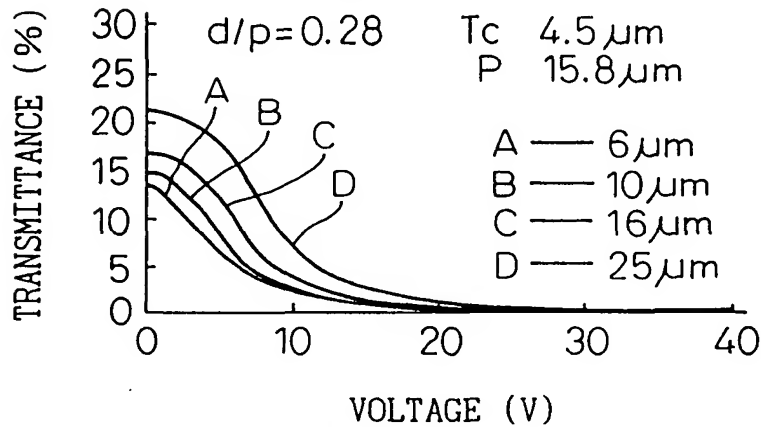
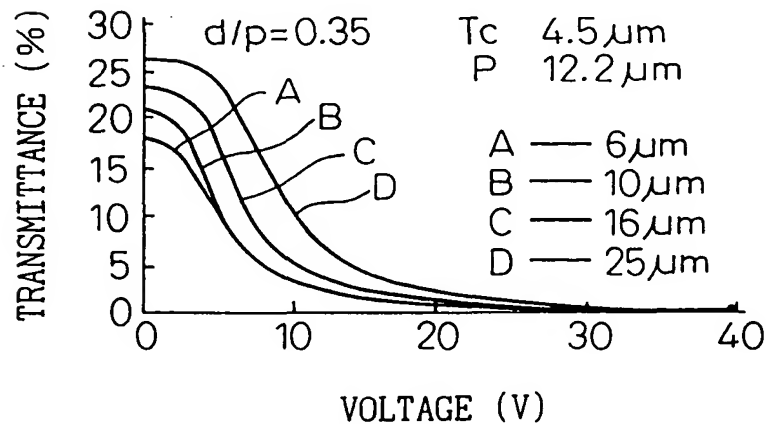


Fig.116C



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Fig.117A

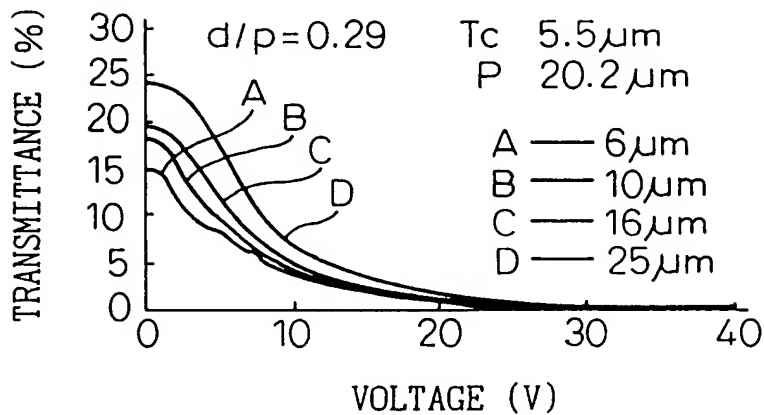


Fig.117B

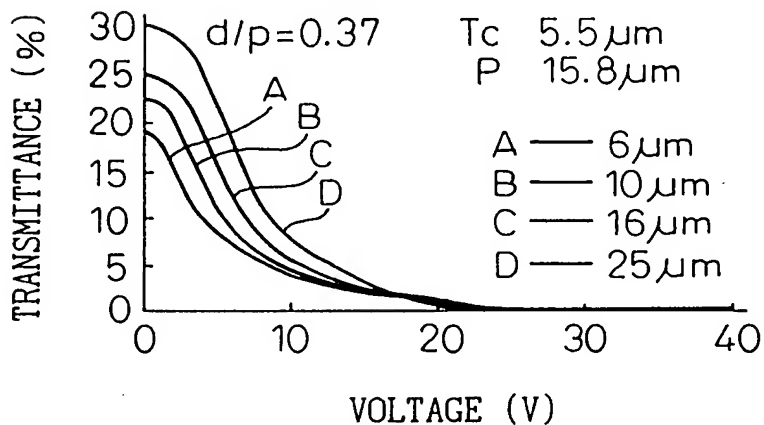
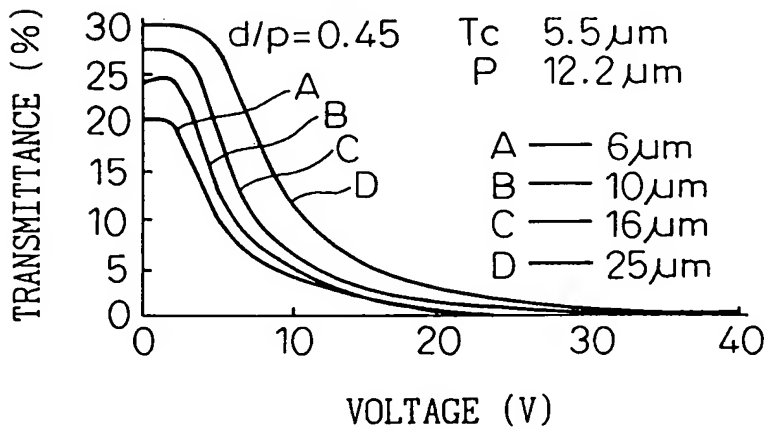
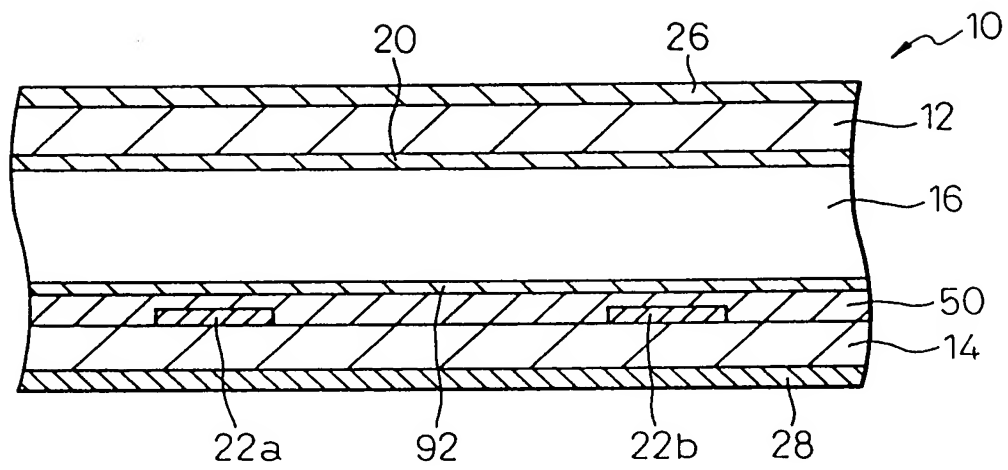


Fig.117C



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Fig.118



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Fig.119

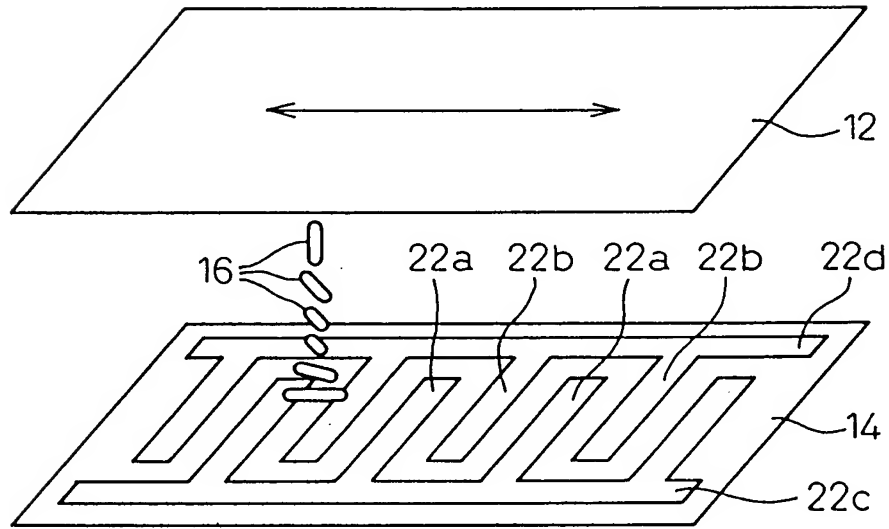
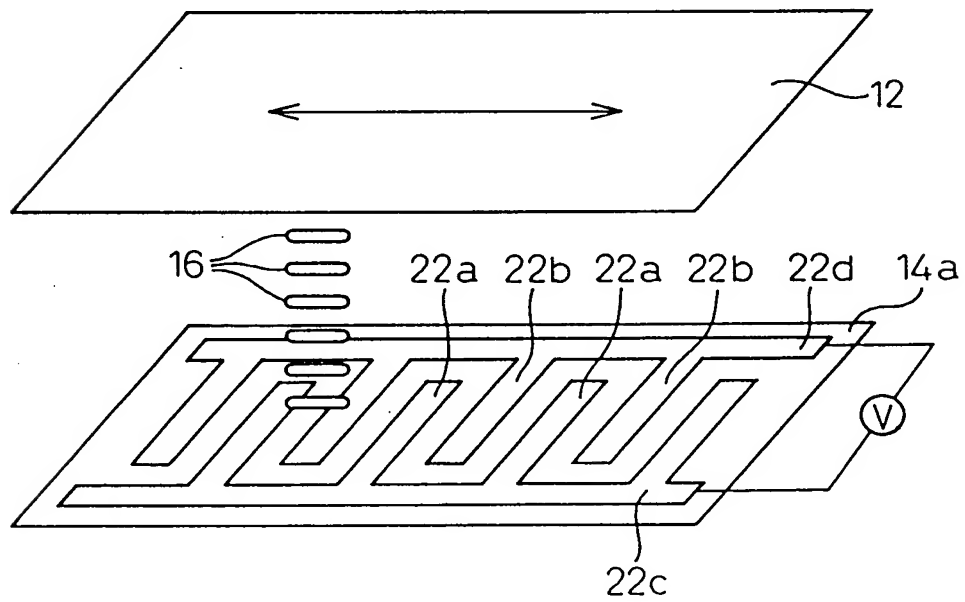


Fig.120



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Fig.121

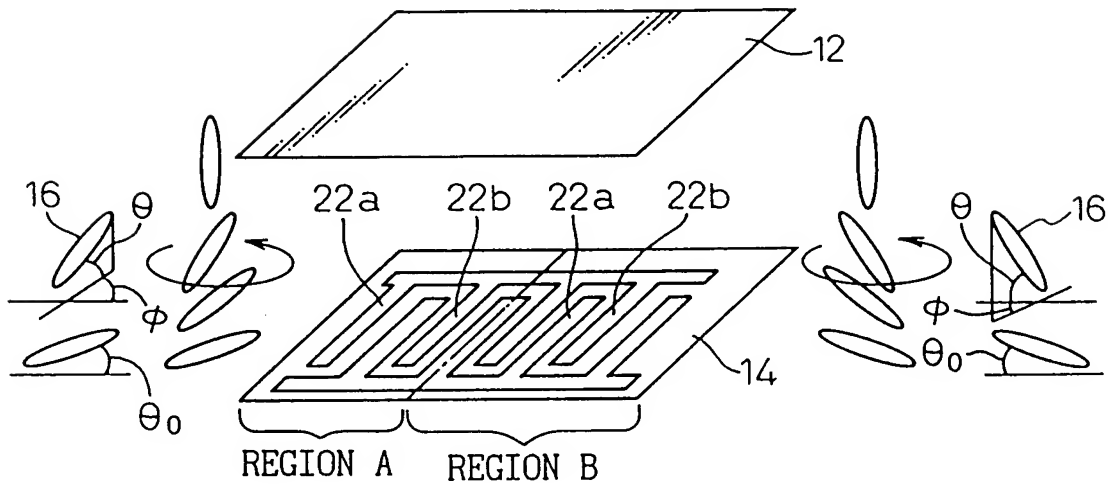
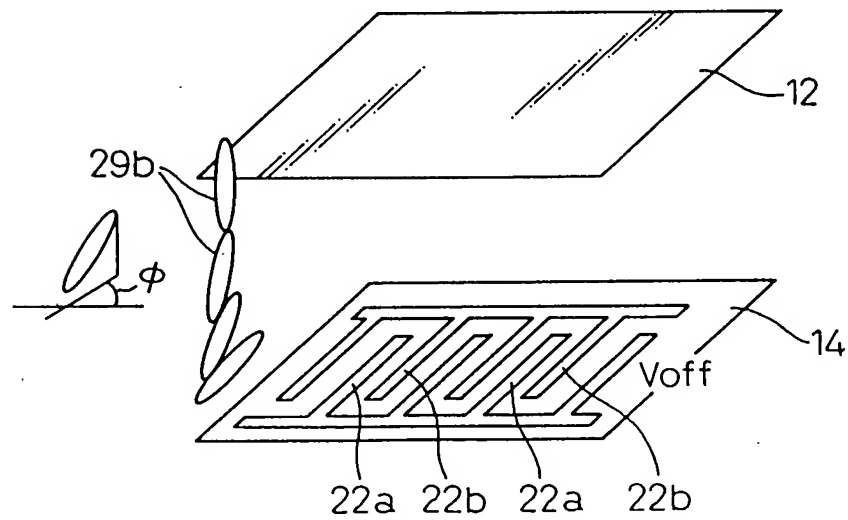


Fig.122



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Fig.123

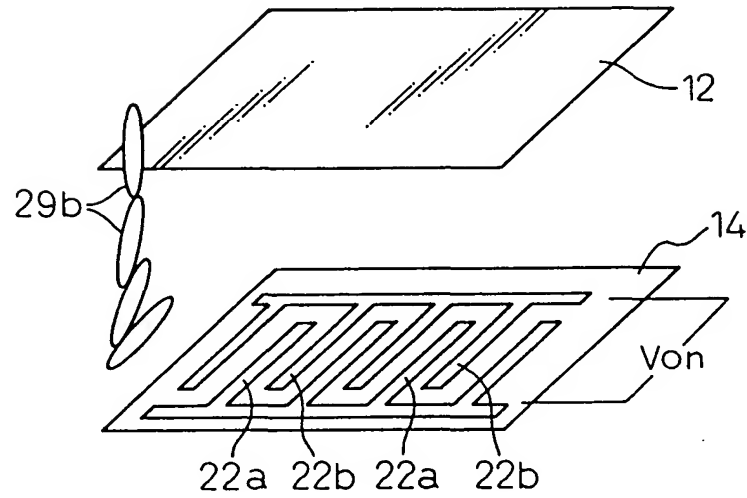
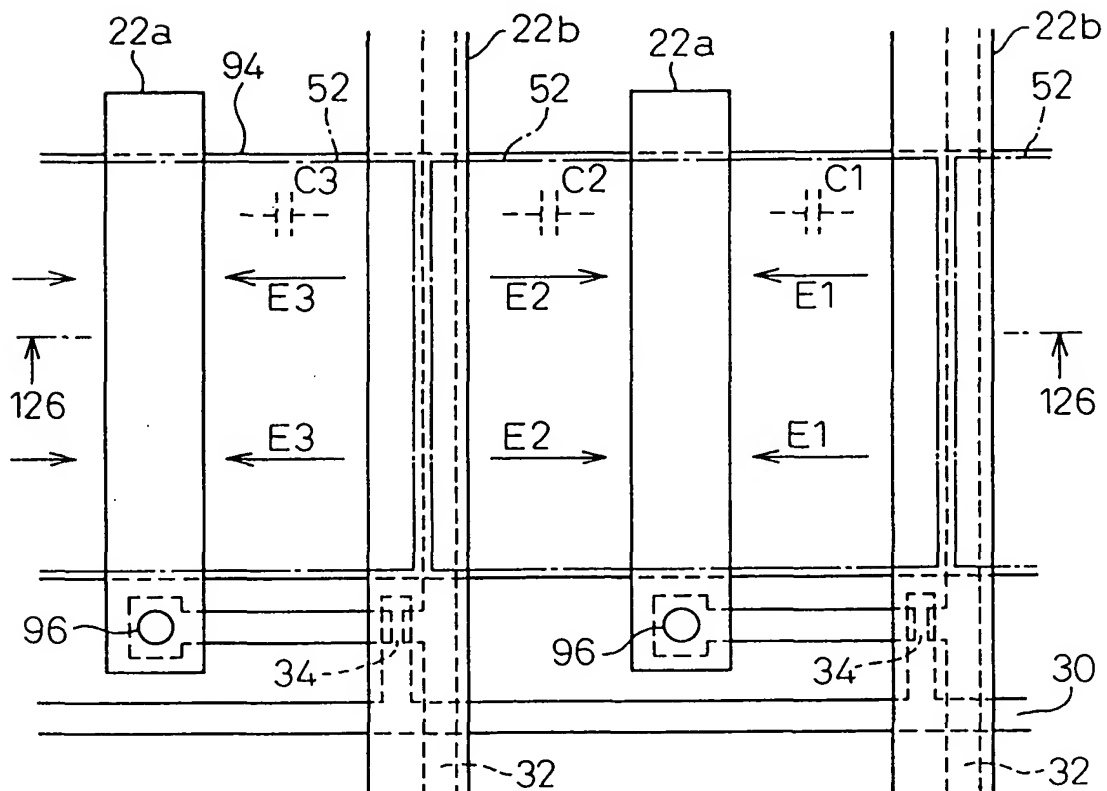


Fig.124



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Fig.125

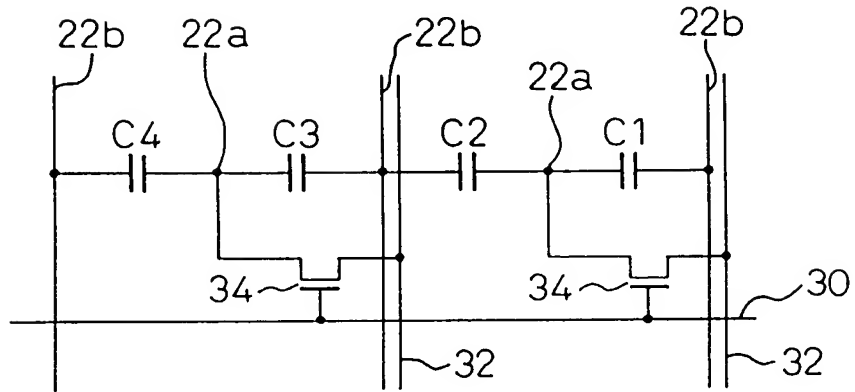
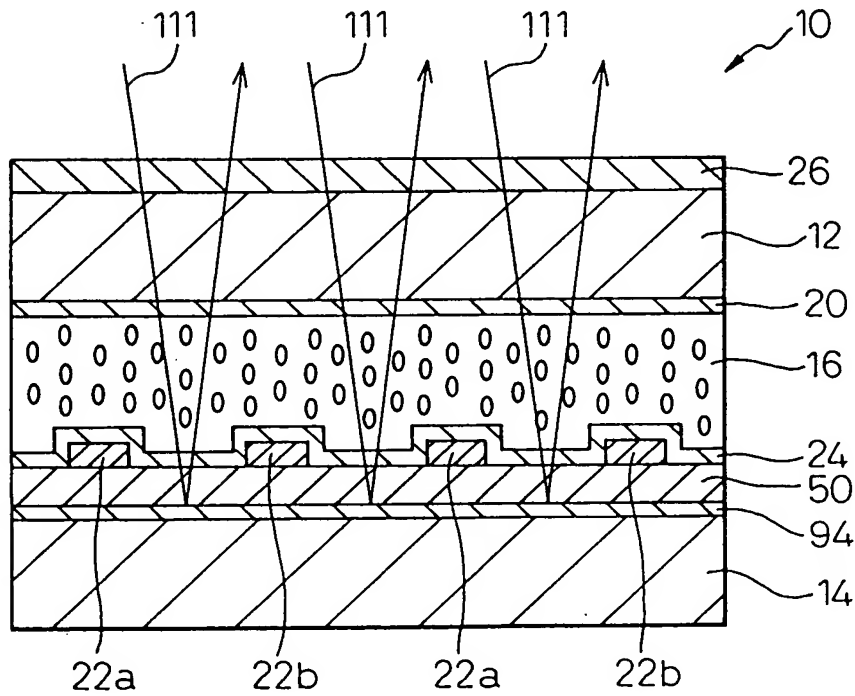
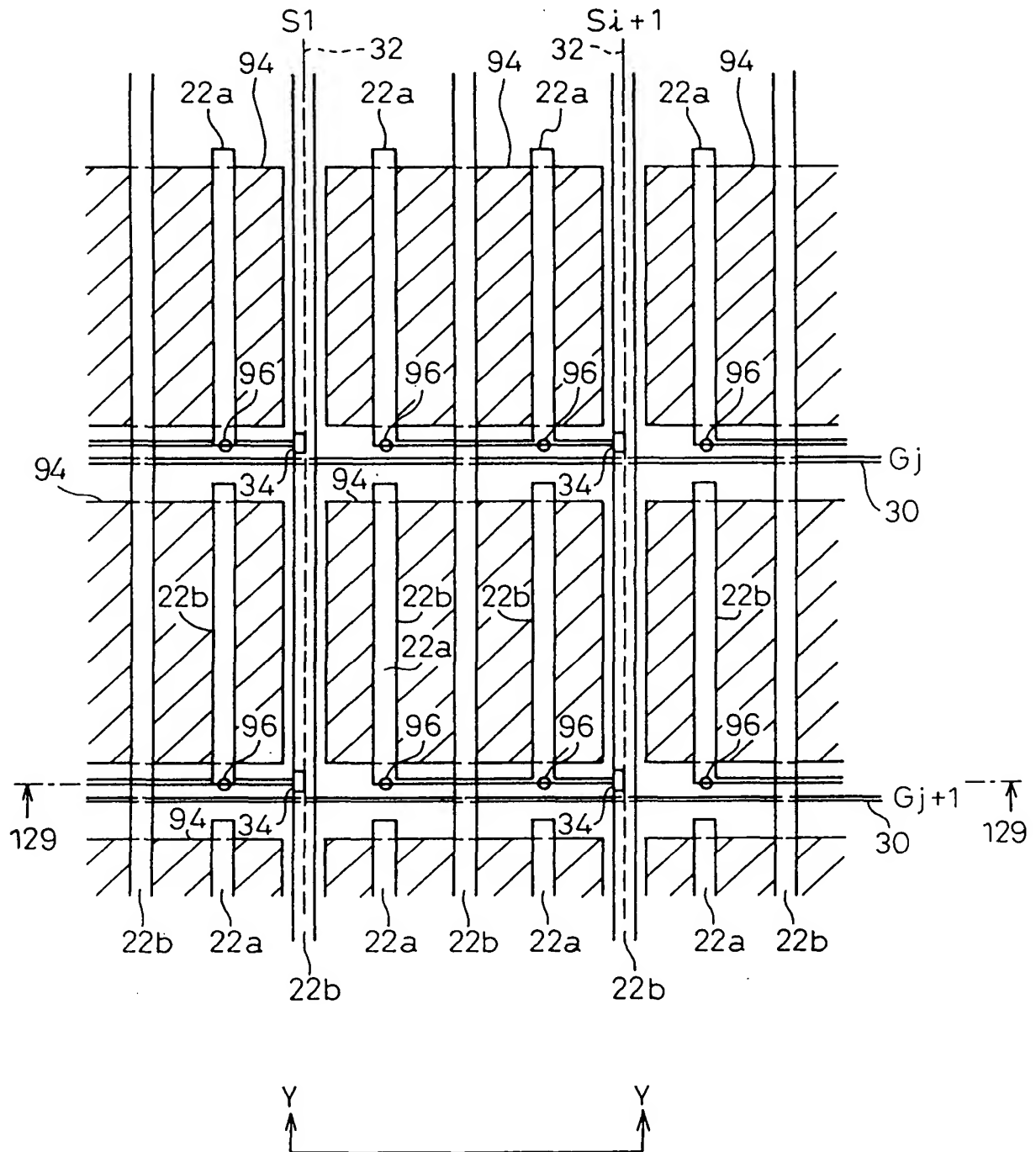


Fig.126



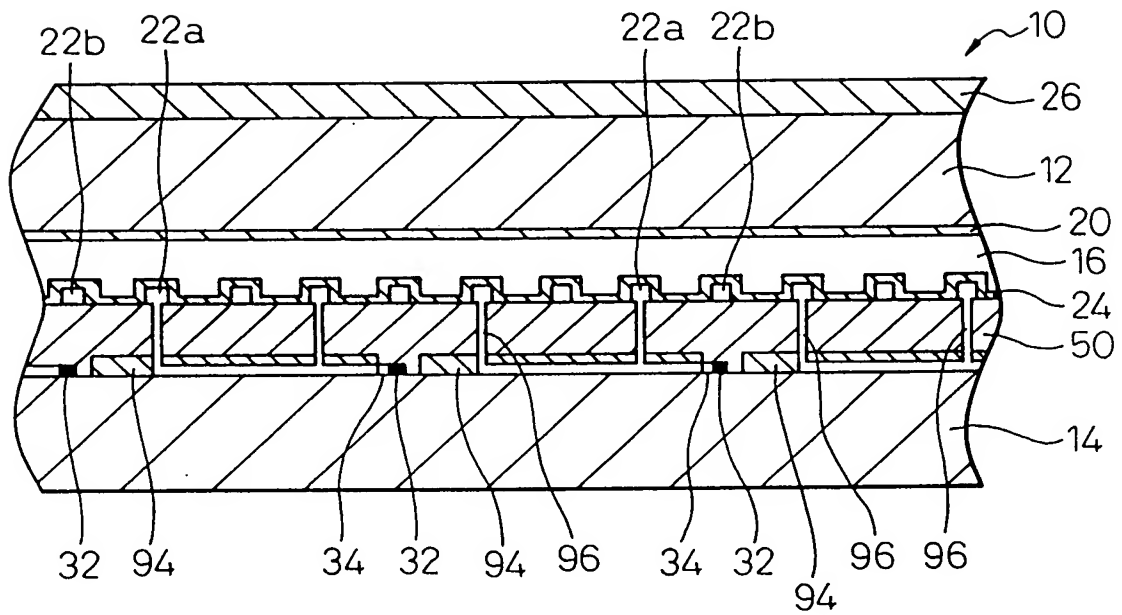
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Fig.128



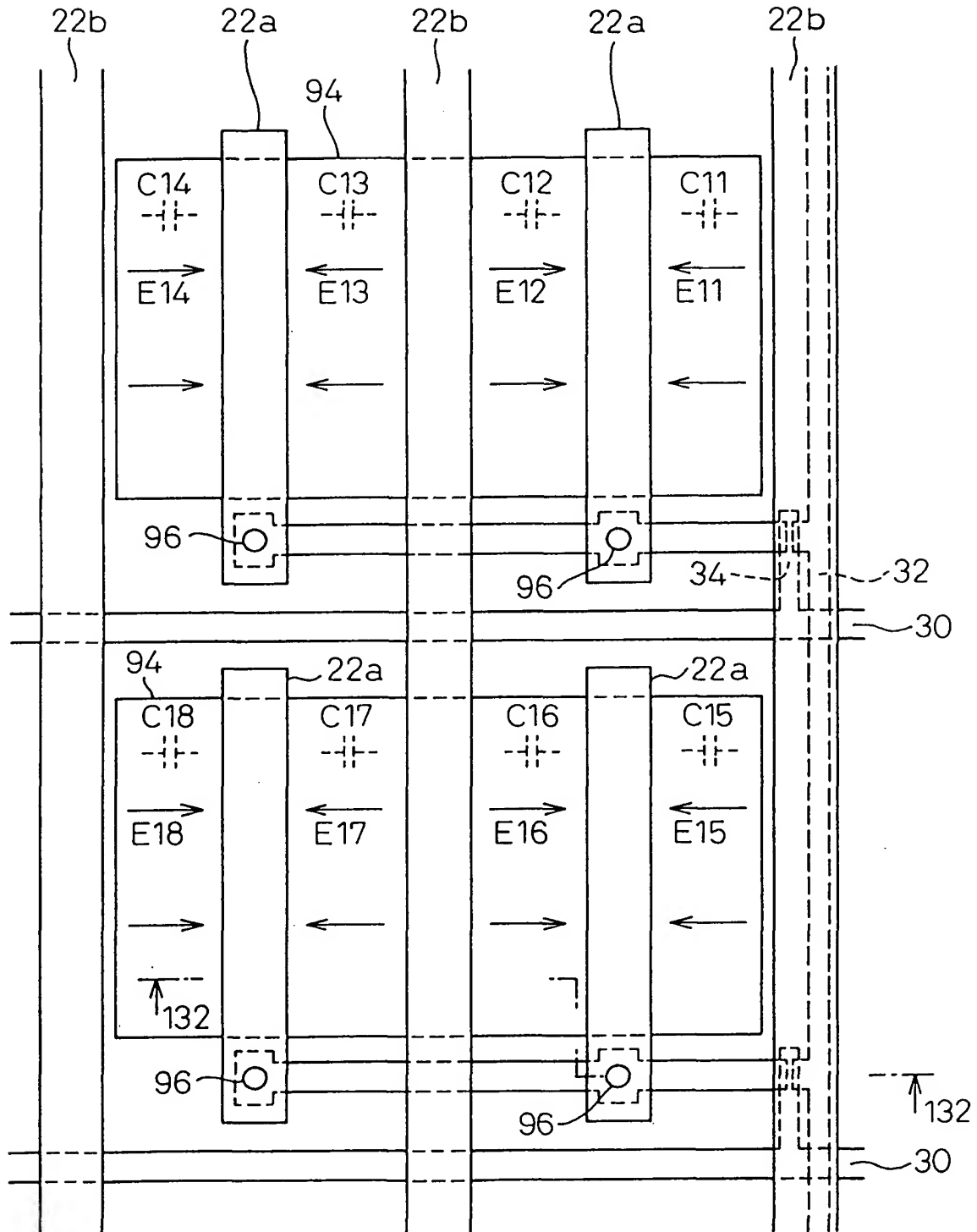
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Fig.129



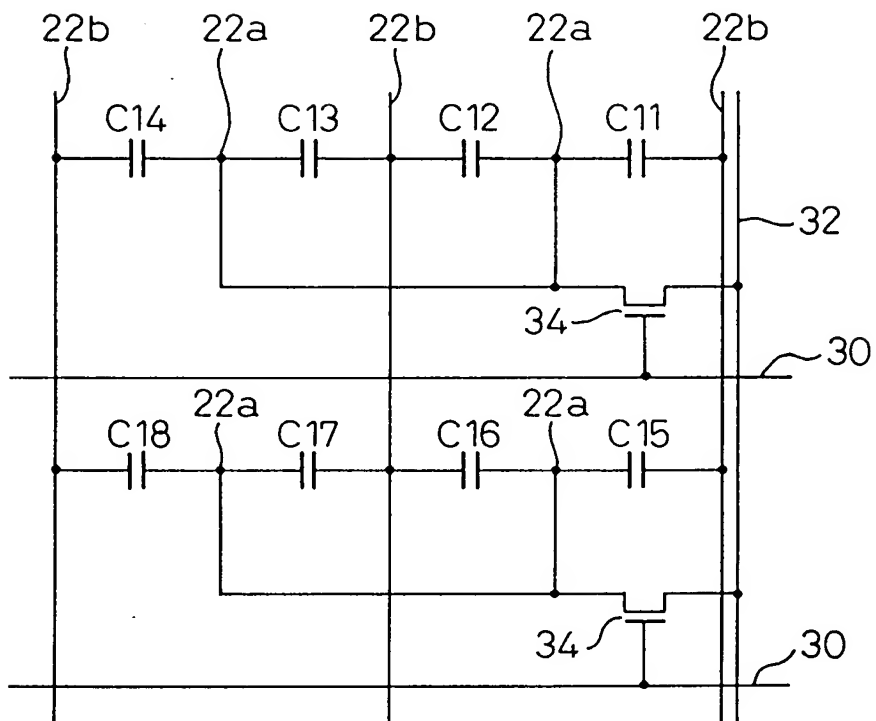
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Fig.130



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Fig.131



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Fig.132A

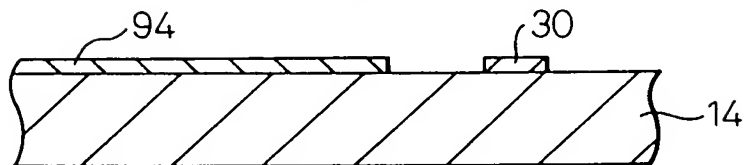


Fig.132B

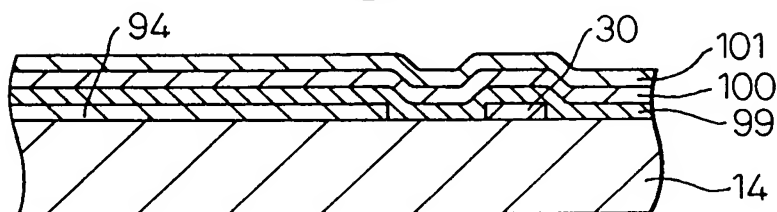


Fig.132C

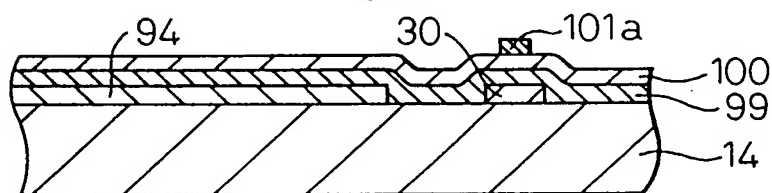


Fig.132D

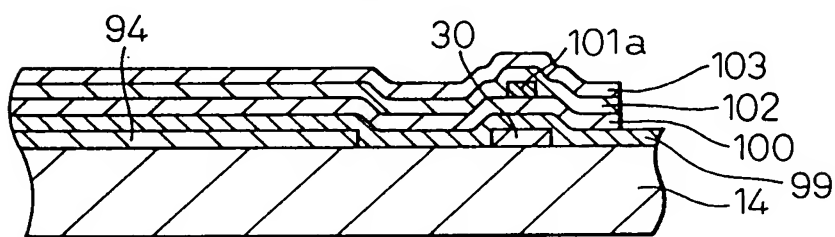
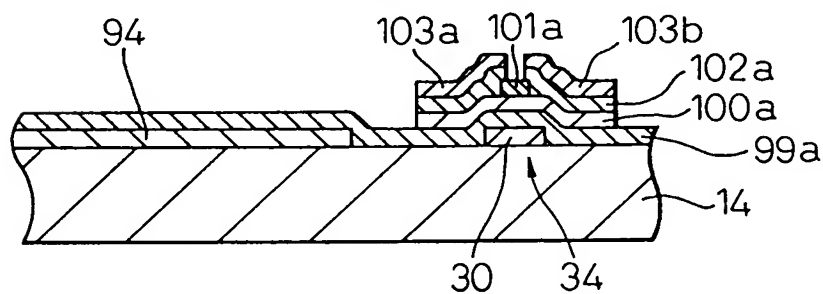


Fig.132E



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Fig.133A

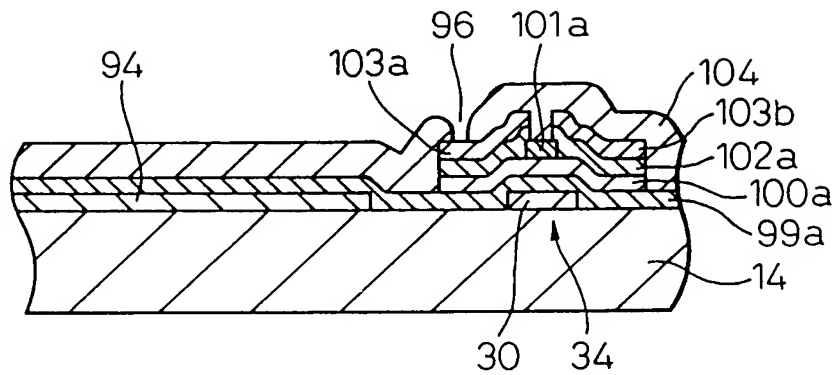


Fig.133B

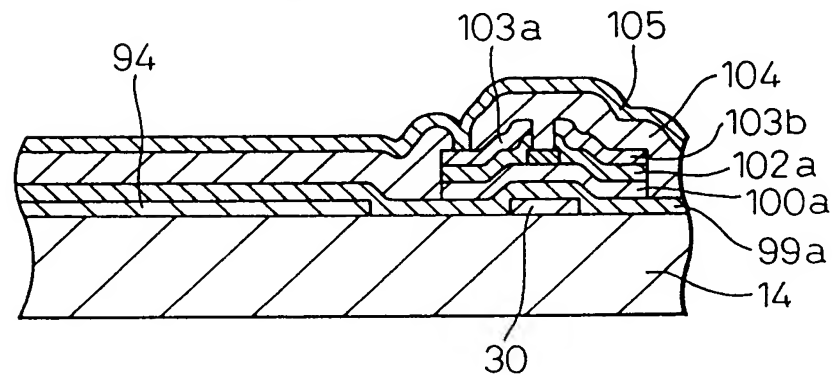
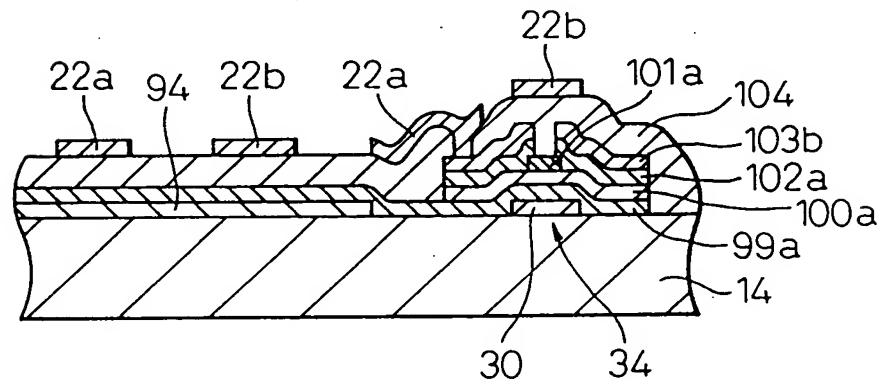


Fig.133C



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Fig.134A

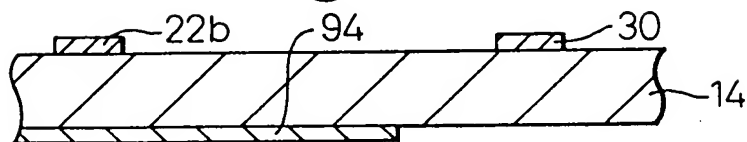


Fig.134B

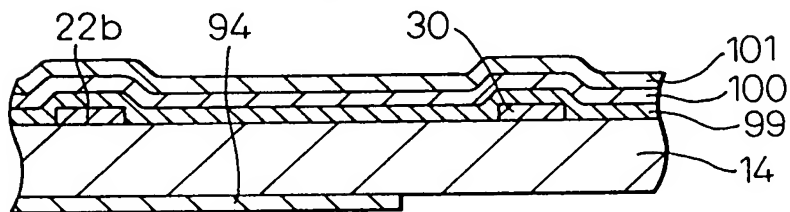


Fig.134C

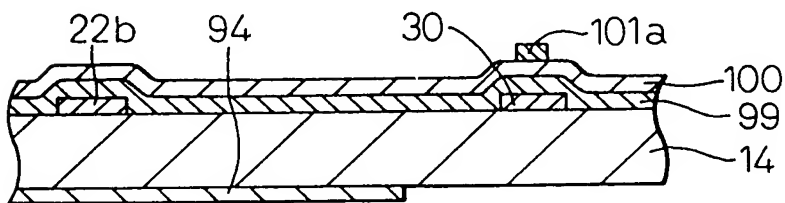


Fig.134D

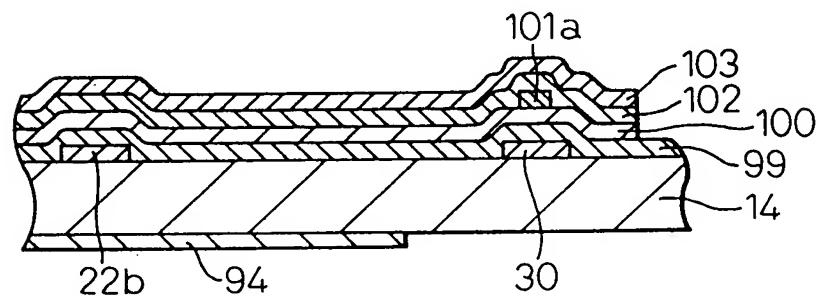
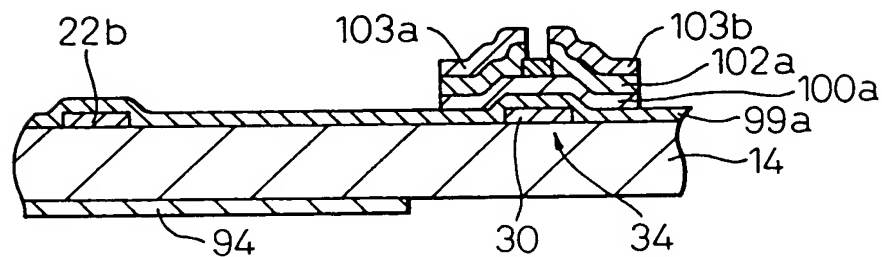


Fig.134E



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Fig.135

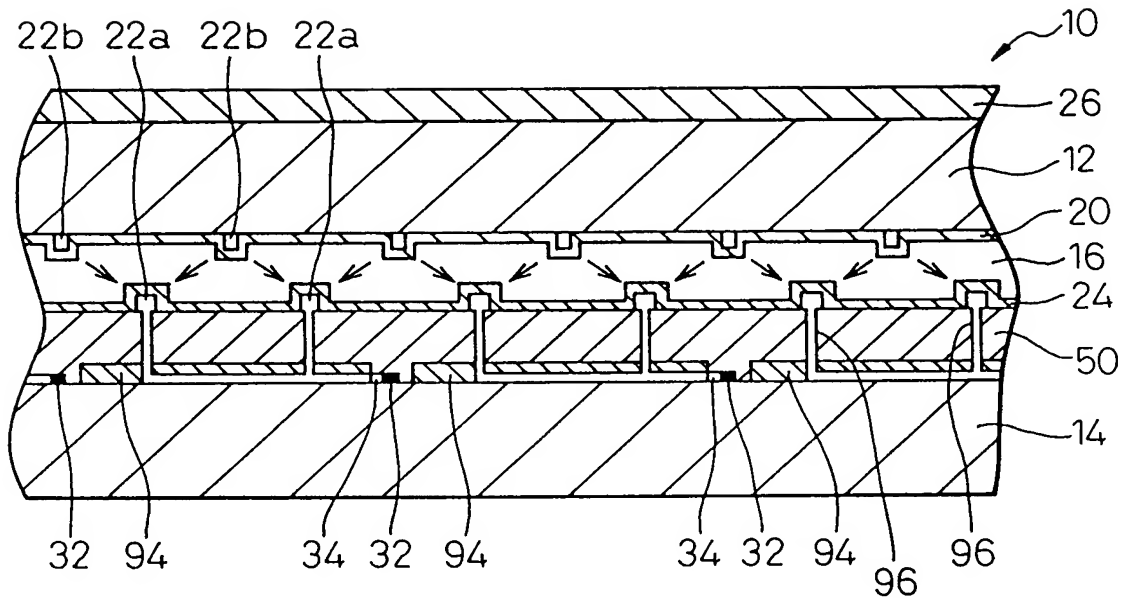
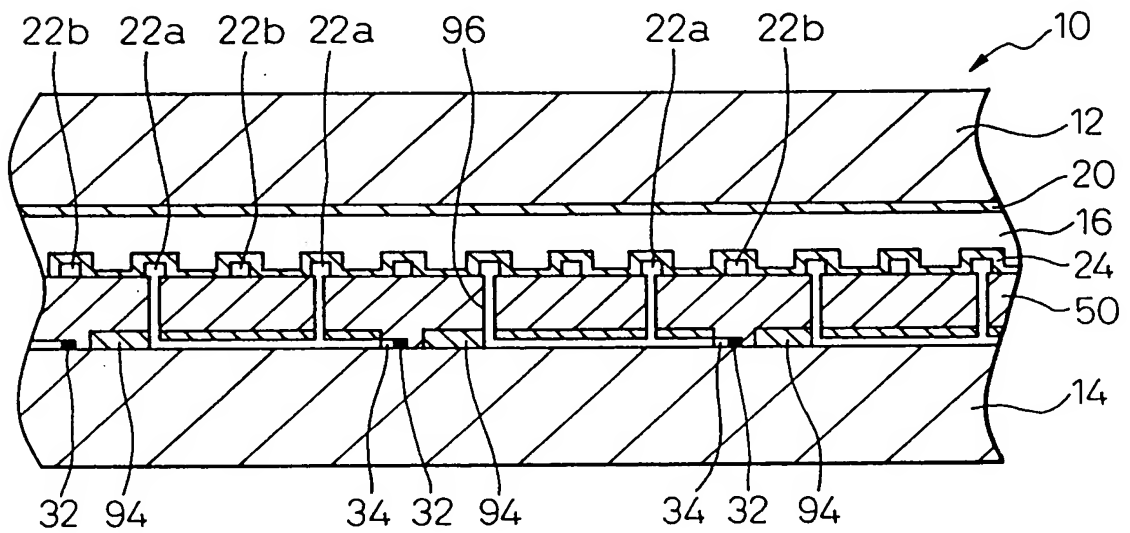


Fig.136



A detailed cross-sectional view of a multi-layered structure 10. The structure consists of several layers: a top layer 12, a thin middle layer 16, and a bottom layer 14. A central layer 90 contains a series of rectangular openings 92. These openings are filled with a material 50, which is supported by vertical pillars 32. The pillars 32 are connected to a horizontal base 34. The top surface of the structure 10 is covered by a layer 26, which has a series of rectangular protrusions 22a and 22b. The protrusions 22a are wider than the openings 92, while the protrusions 22b are narrower. The entire structure is shown in a perspective view, with the layers 12, 16, and 14 having a hatched pattern.

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Fig.139

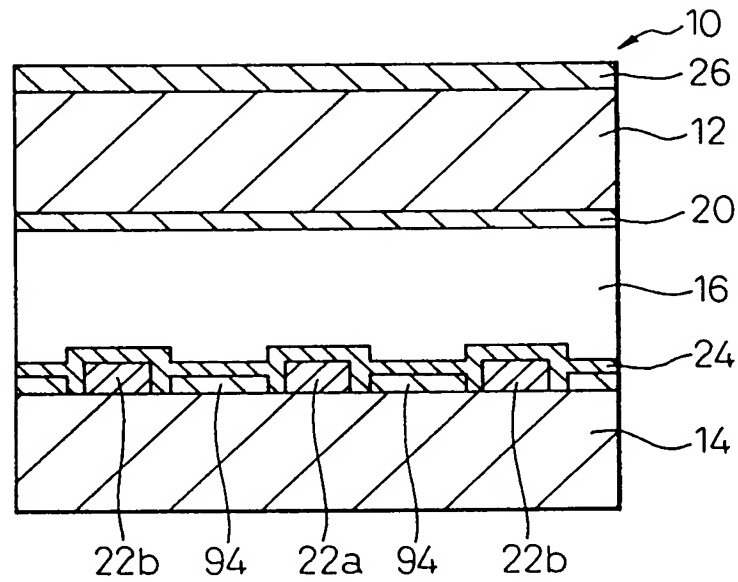
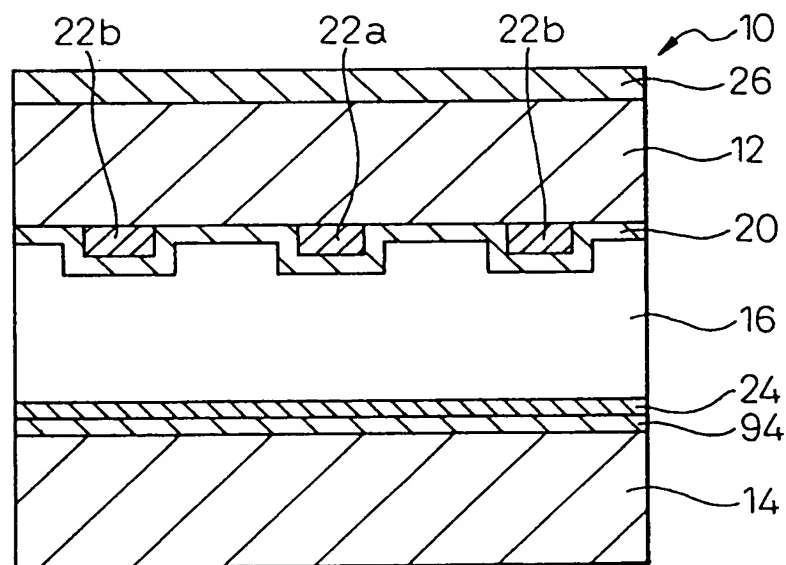


Fig.140



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Fig.141

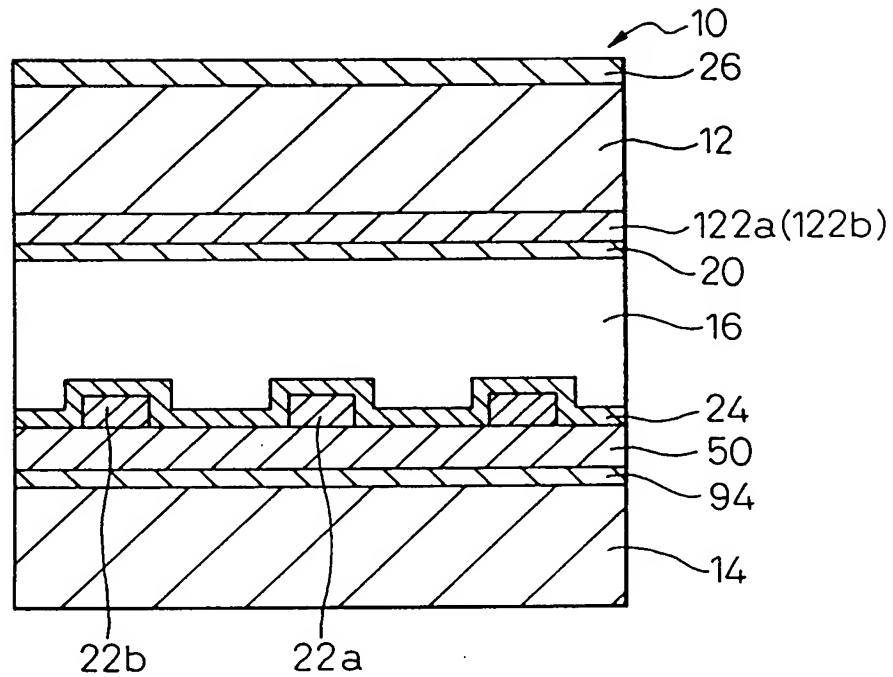
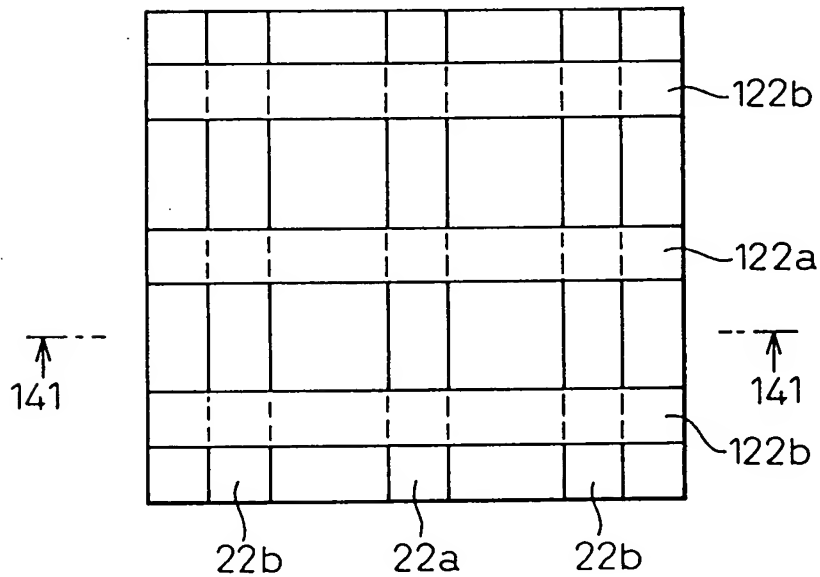


Fig.142



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Fig.143

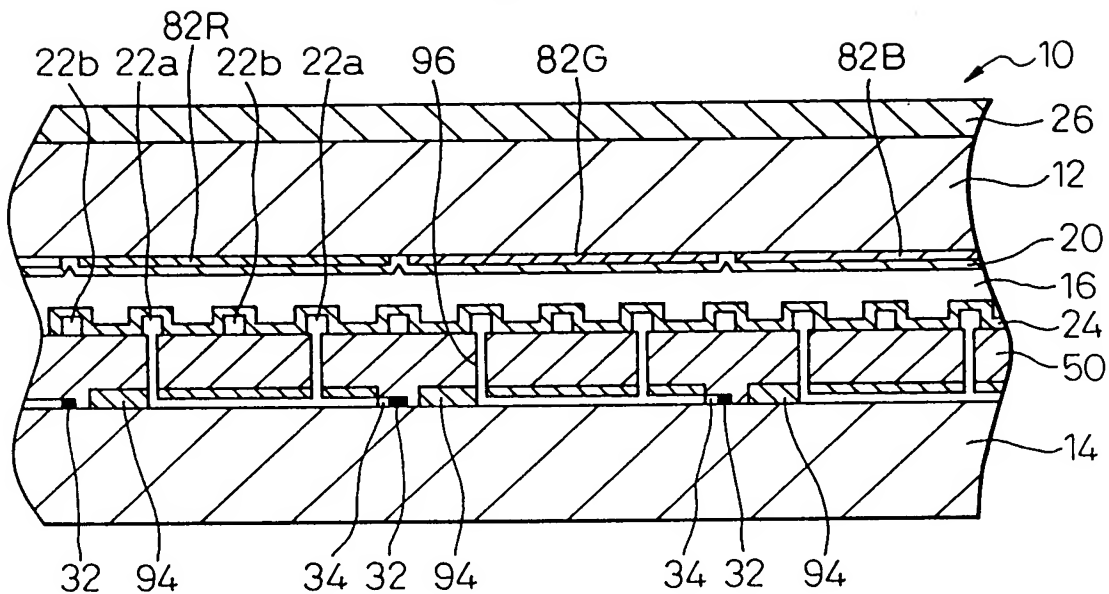
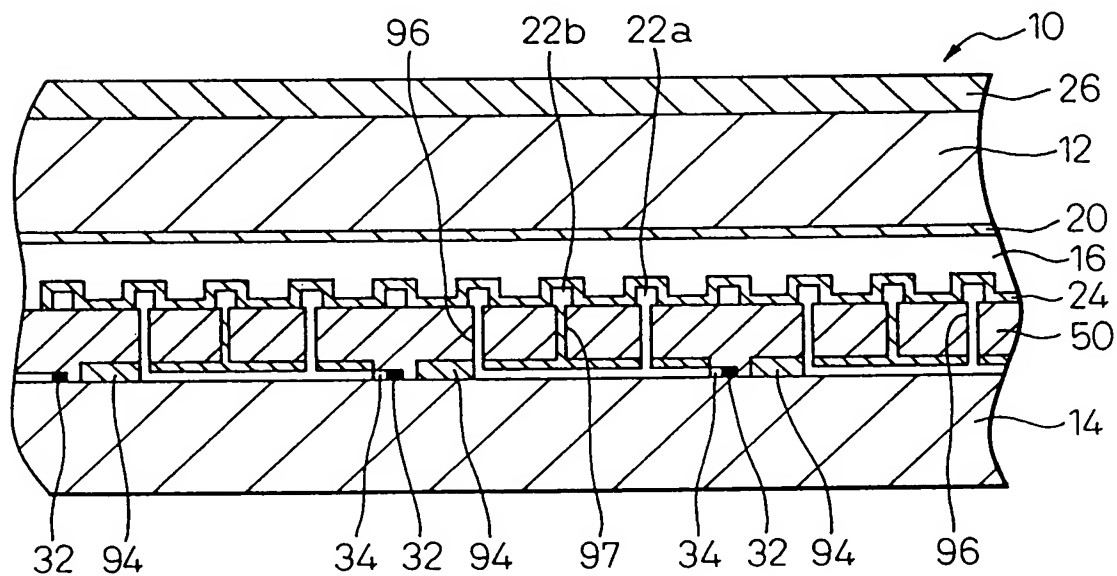
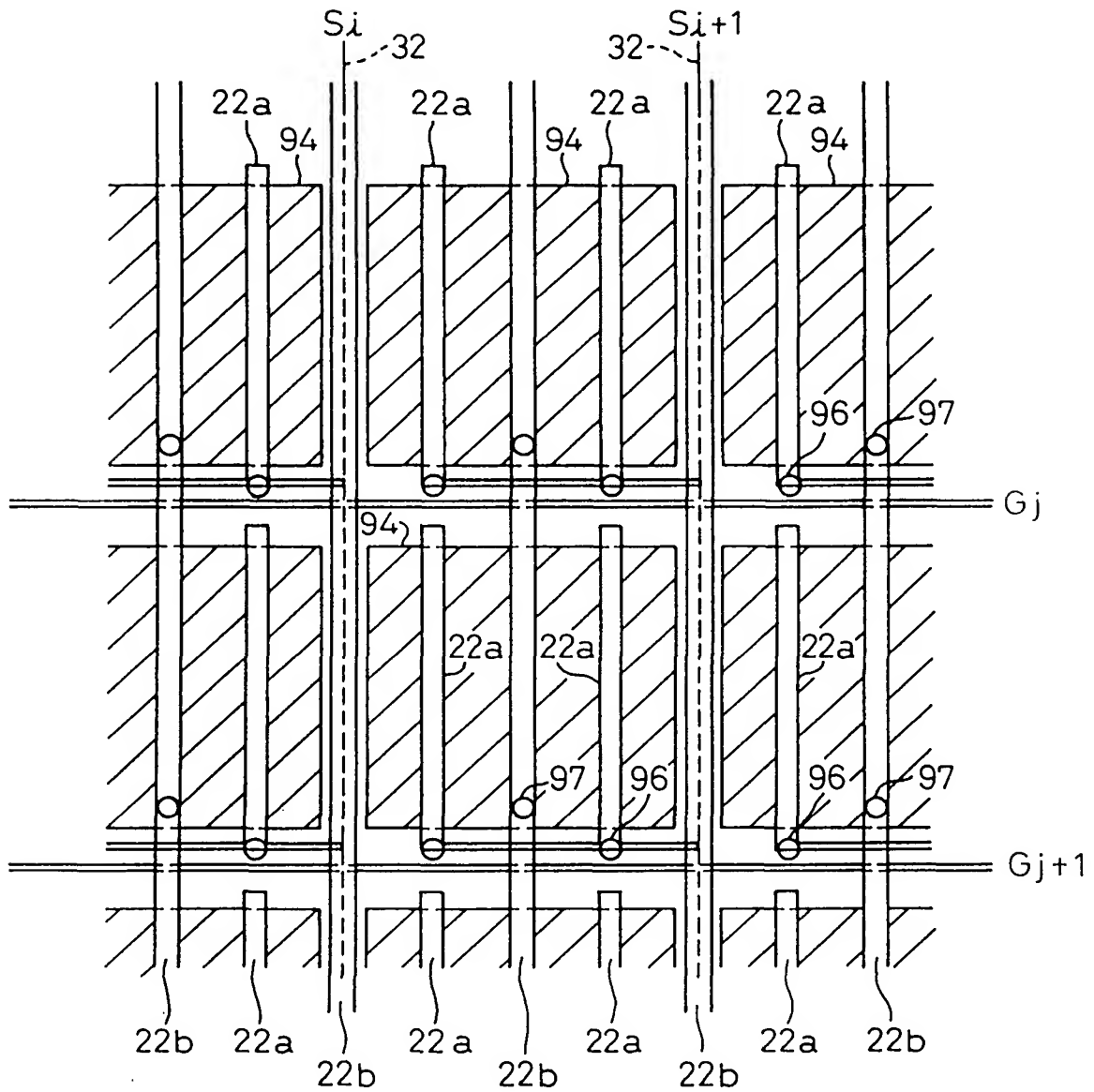


Fig.144



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Fig.145



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Fig.146

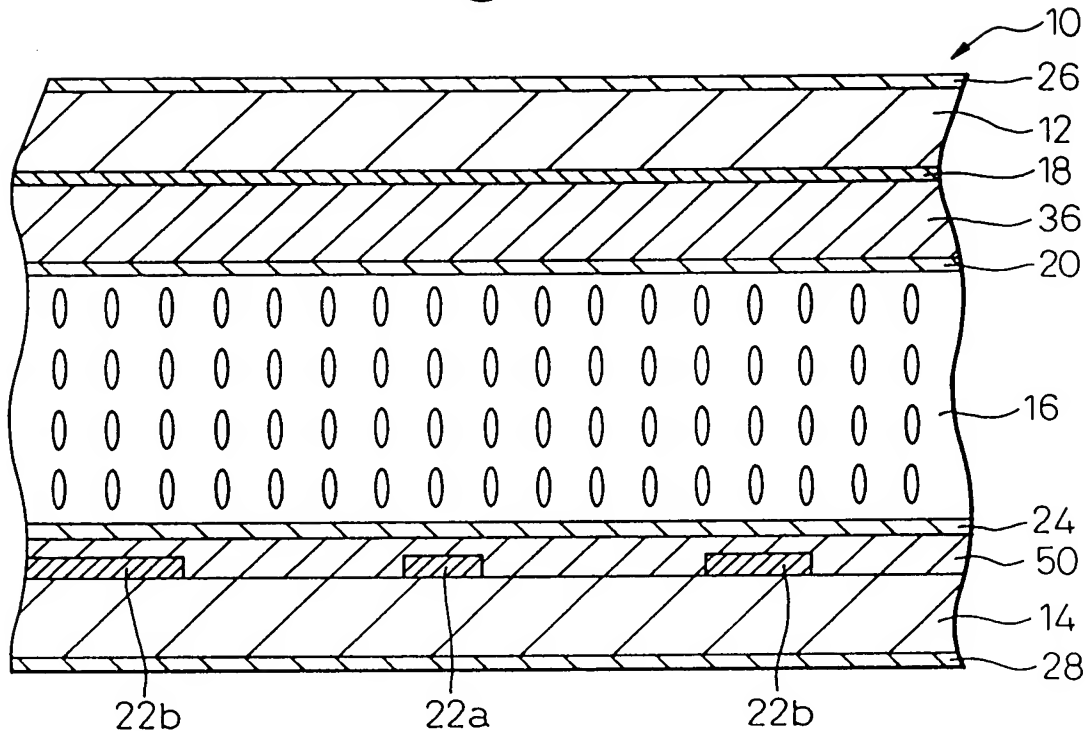
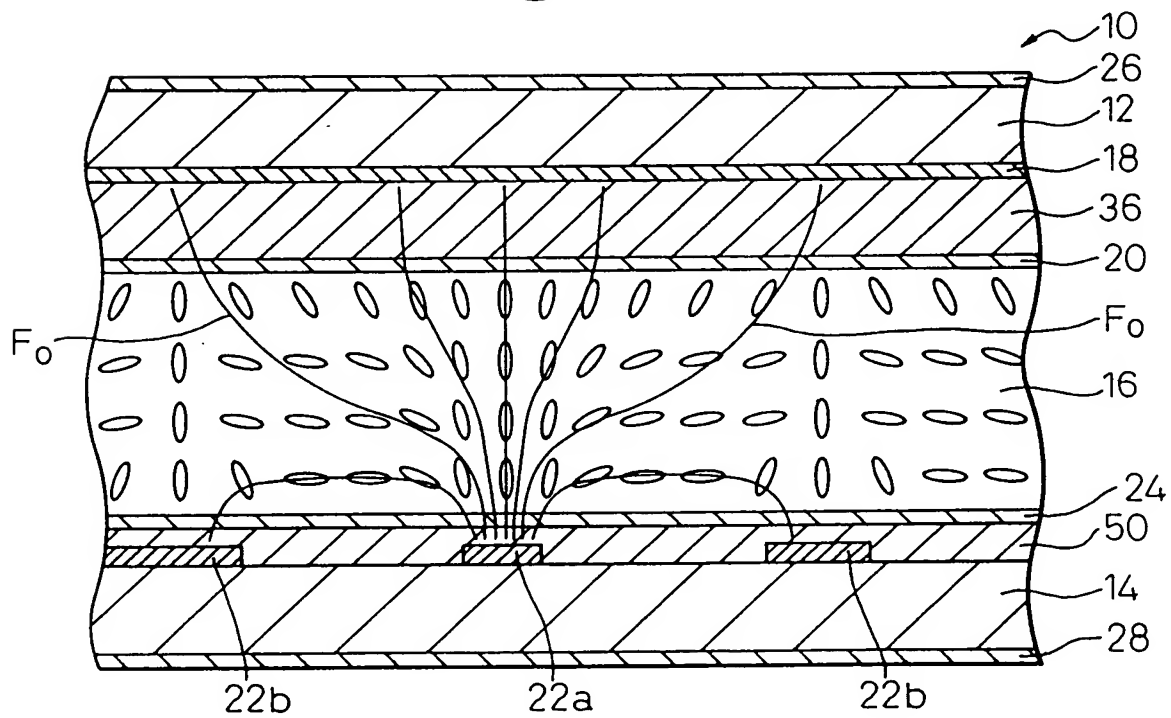


Fig.147



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Fig.148A

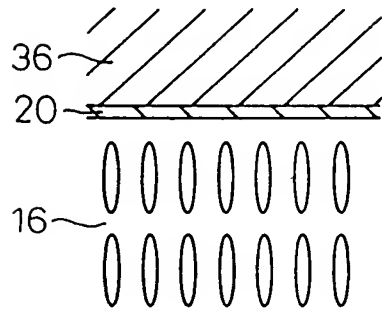


Fig.148B

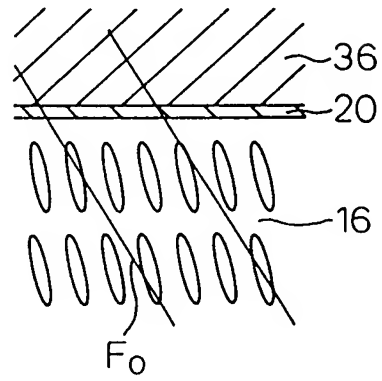


Fig.149A

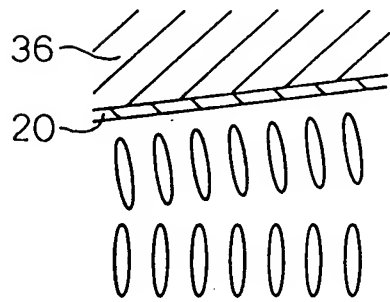
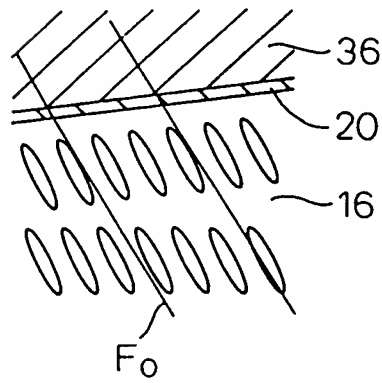


Fig.149B



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Fig.150

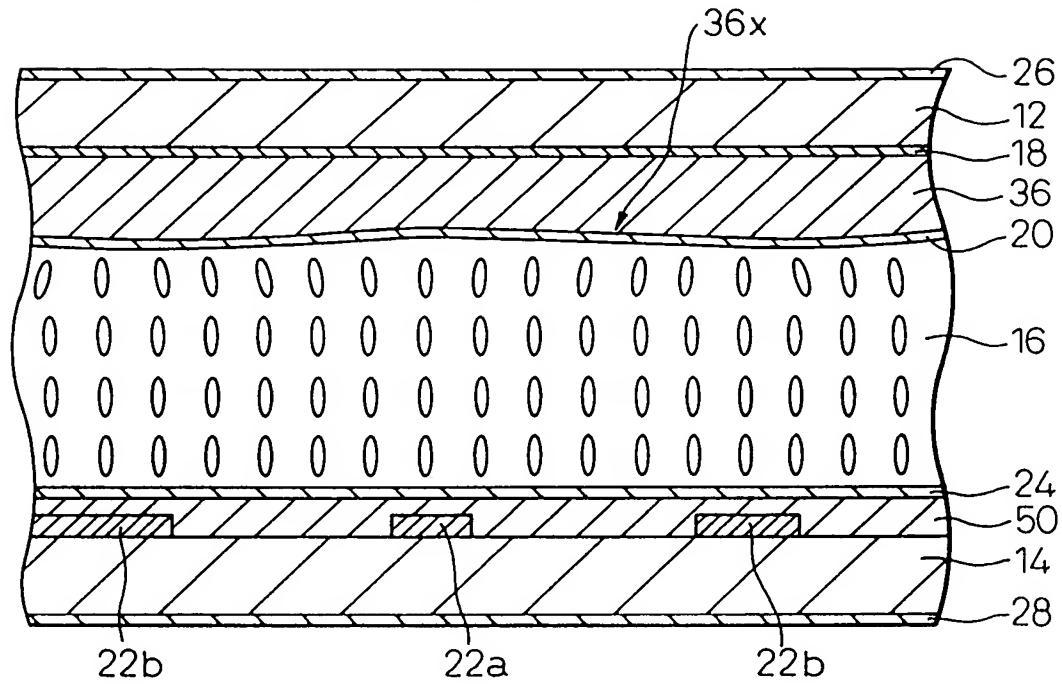
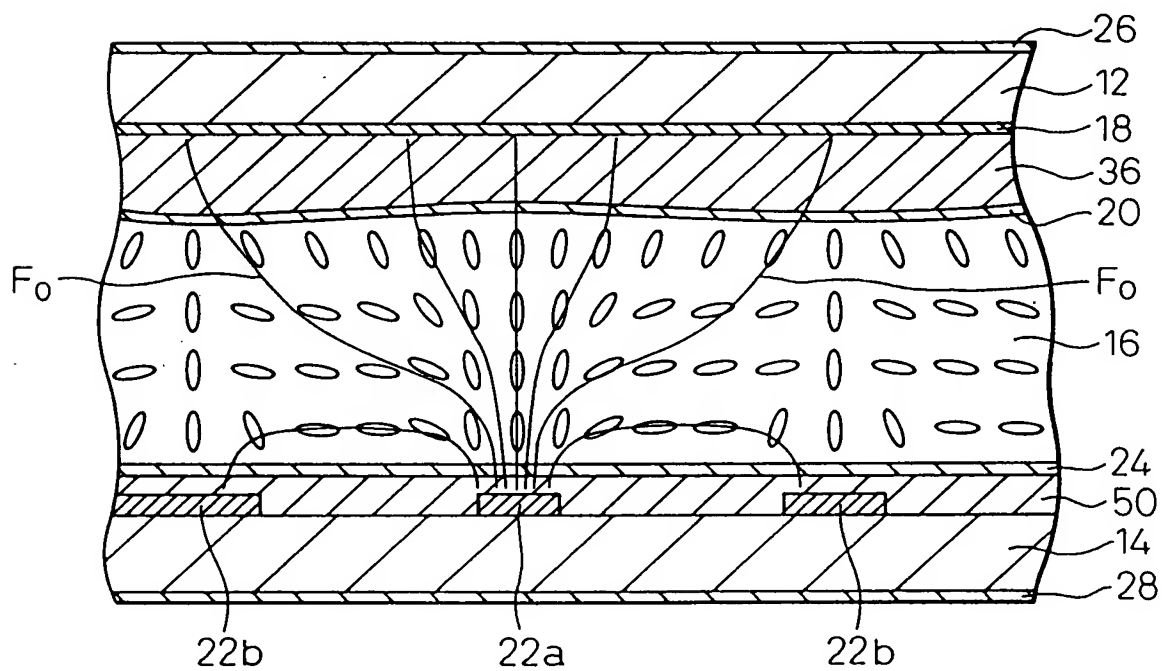


Fig.151



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Fig.152

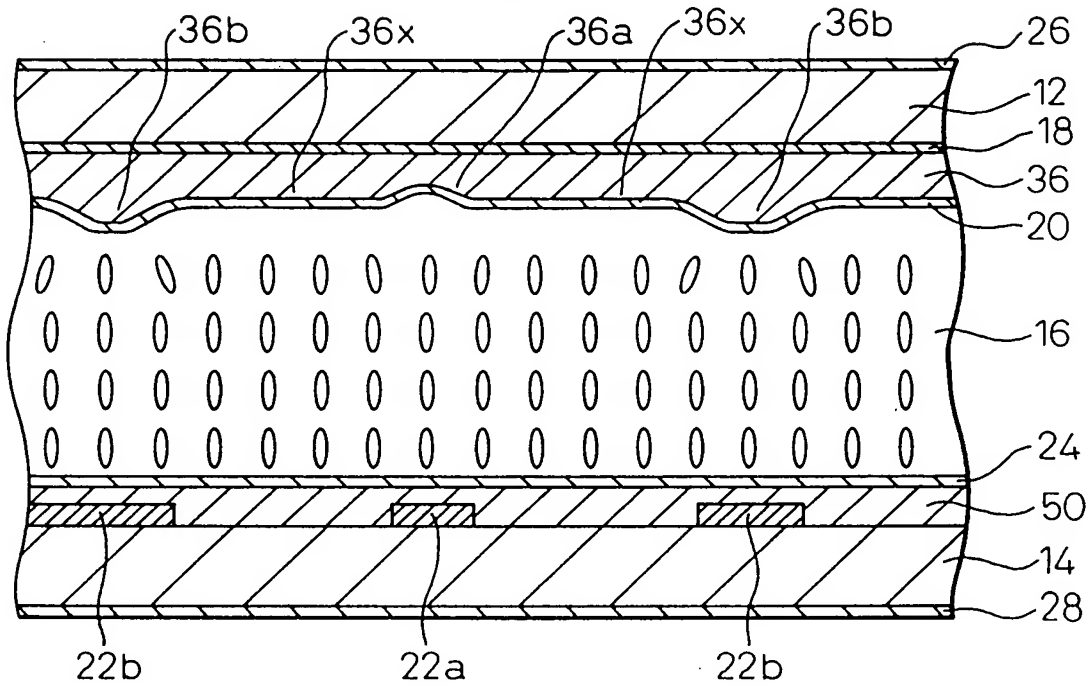
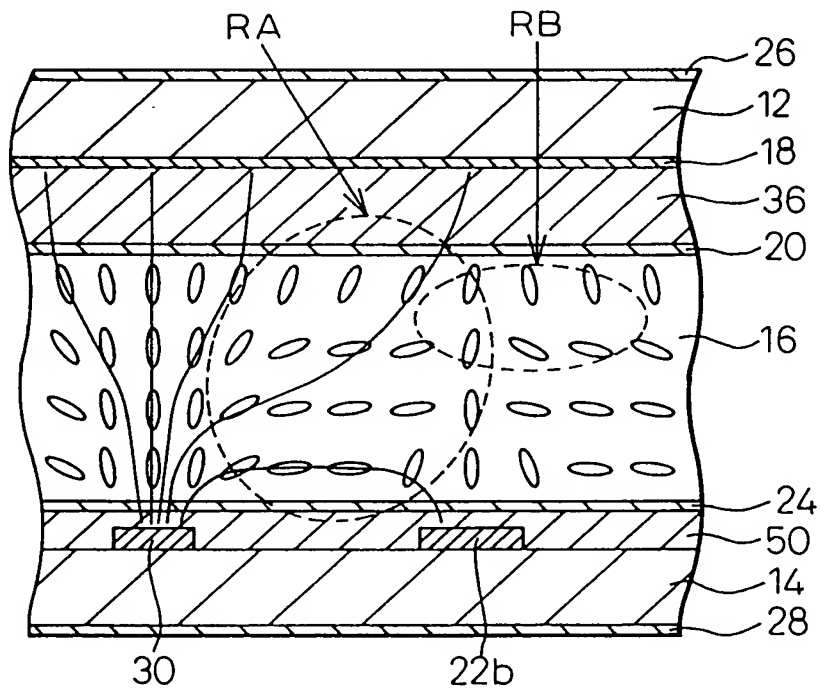


Fig.153



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Fig.154

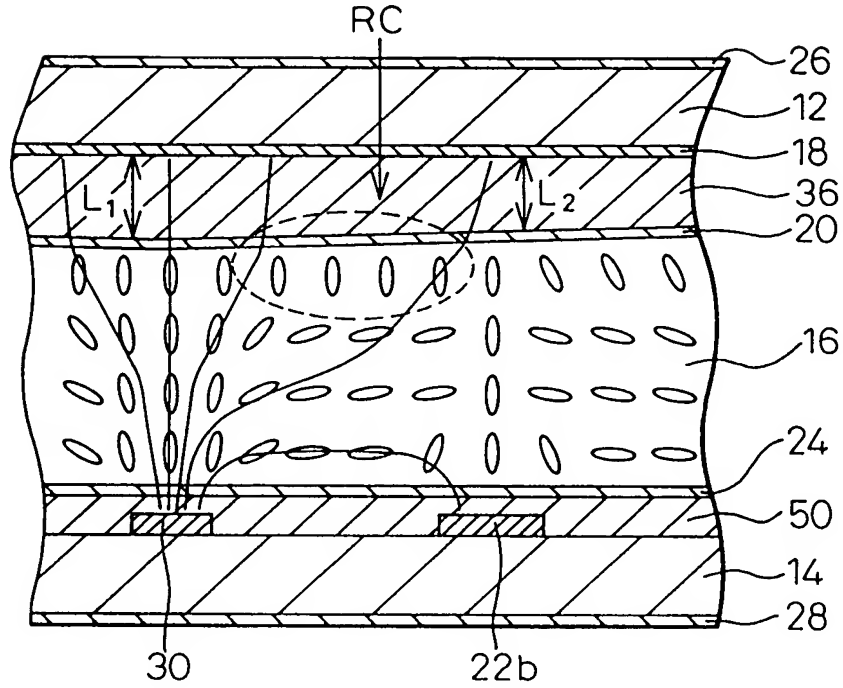
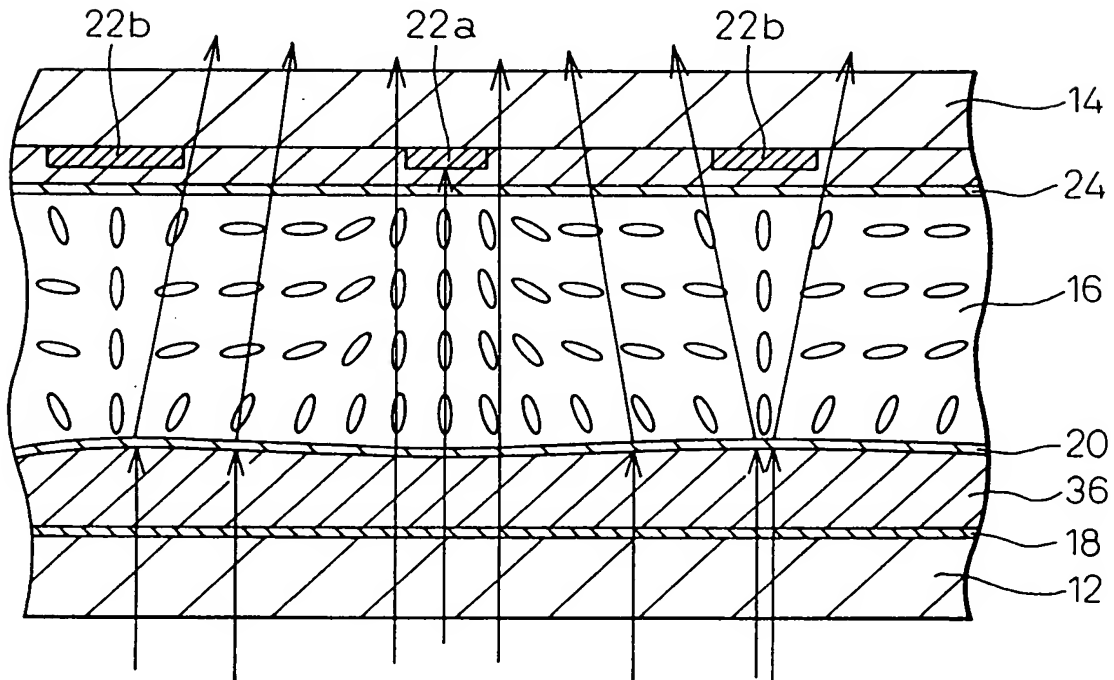
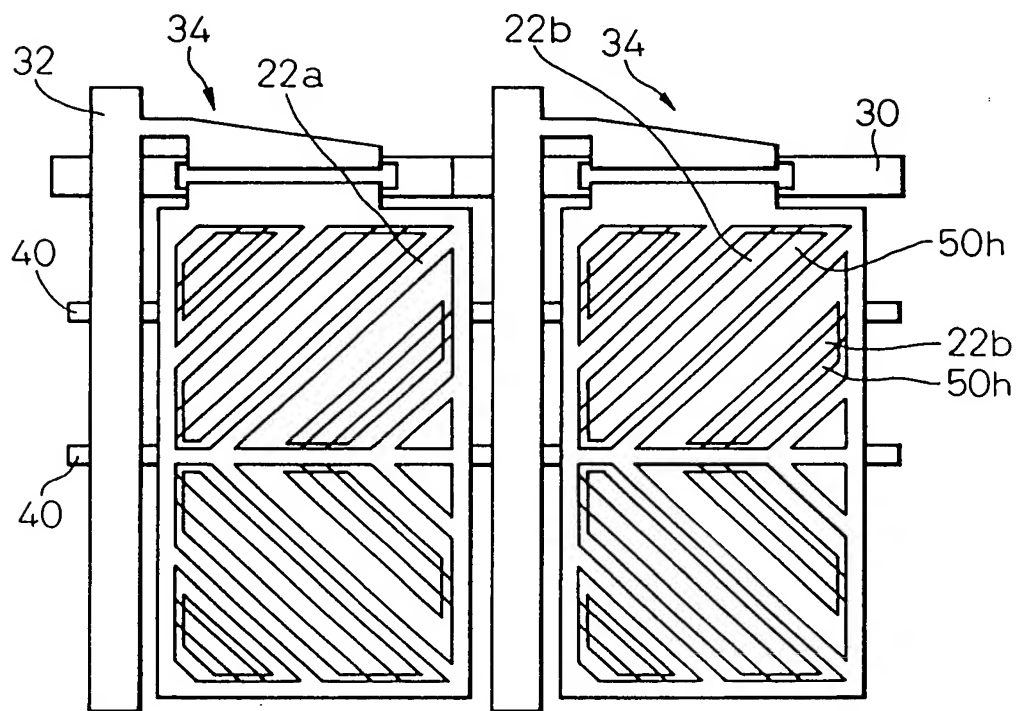


Fig.155



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Fig.156



50h 50j

50b 50a 22b 14 22a

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Fig.159

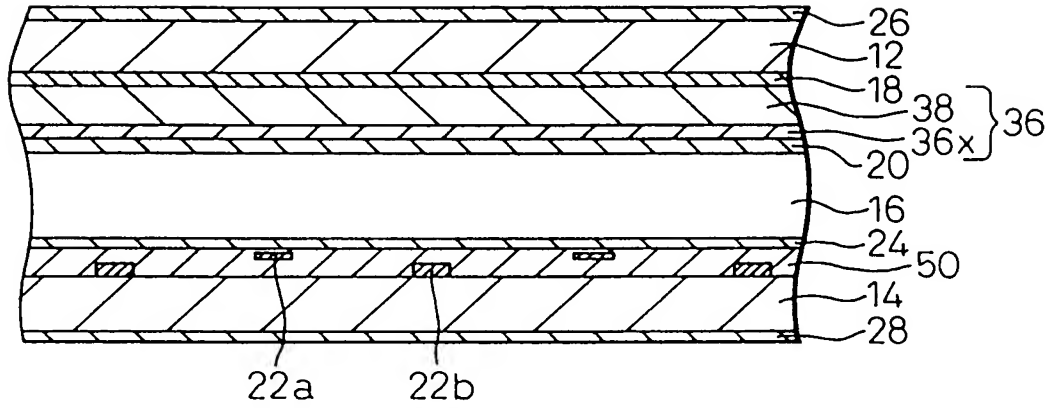


Fig.160

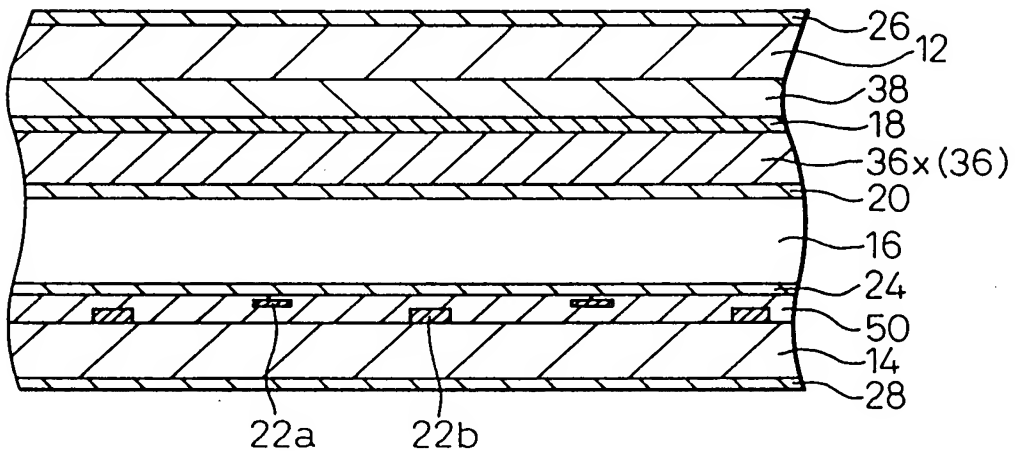
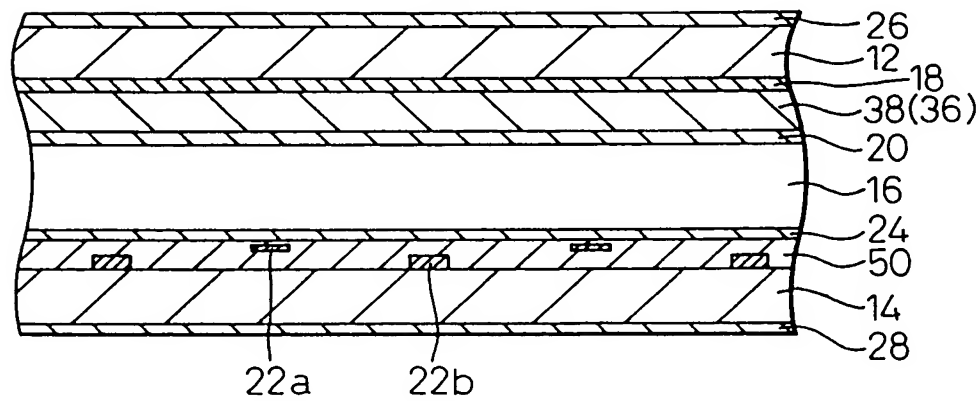


Fig.161



$\frac{105}{106}$

Fig.162

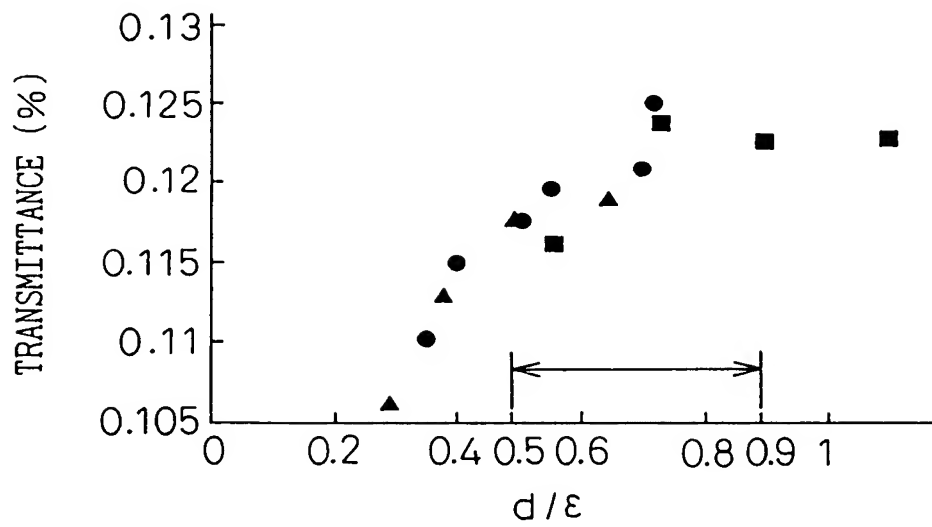
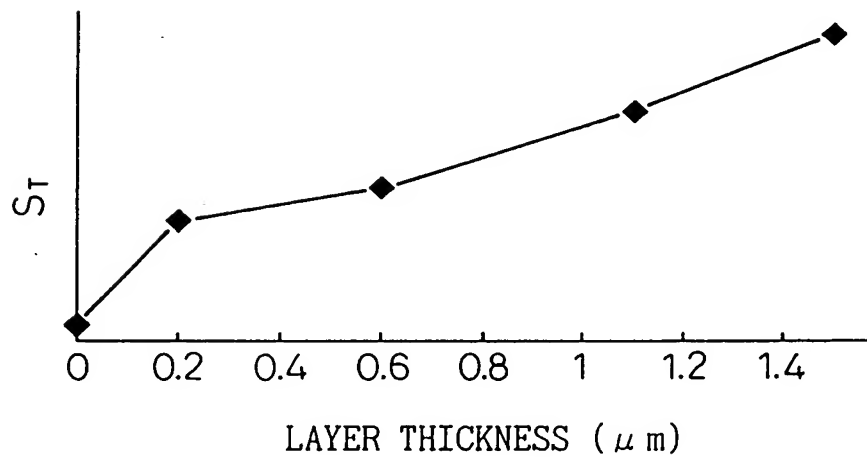


Fig.163



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Fig.164

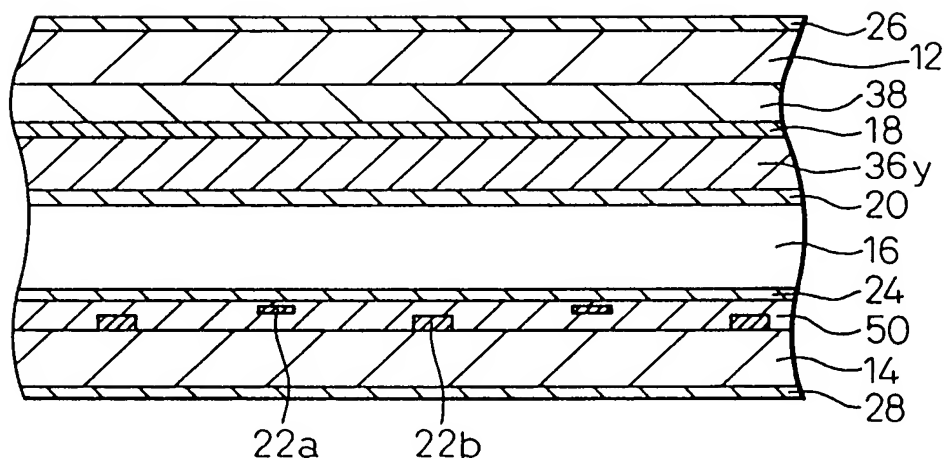


Fig.165

